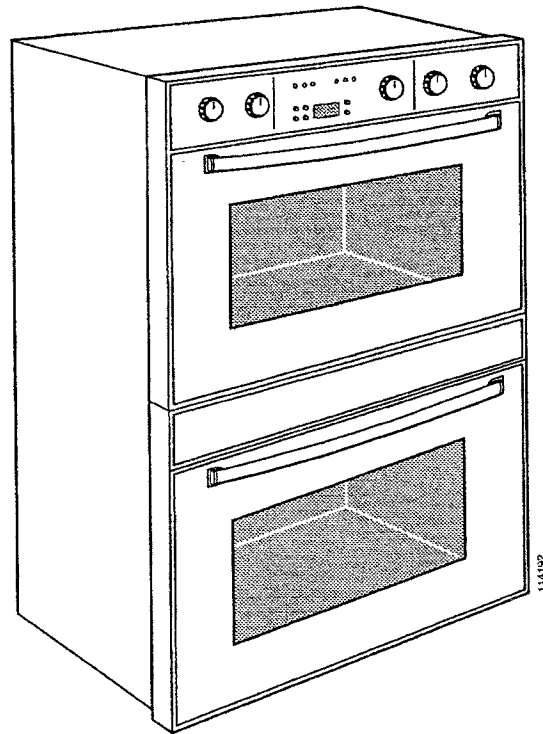
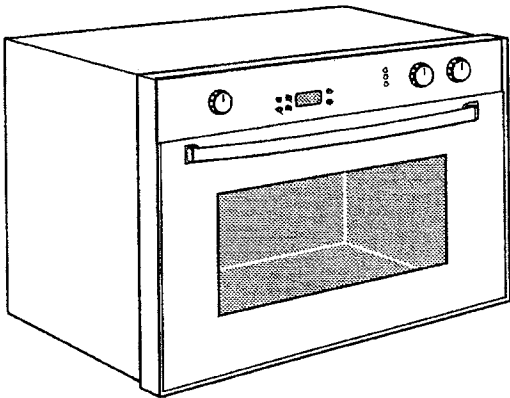


BOSCH

Service Manual



**Single & Double Oven
Models HBL 43../44../45..
HBN 44../45..**

Conversion of 400/500/600 Series Wall Ovens from 240V to 208V Operation

The conversion of 400/500/600 series wall ovens from 240V to 208V is achieved by removing the “U” shaped connector pin from the single terminal position #1 and inserting it across terminal positions 1 and 2 as explained below.

PROCEDURE:

- ❑ Using a Phillips head screwdriver, remove the back access panel.

(NOTE: Do NOT remove the entire back panel.)

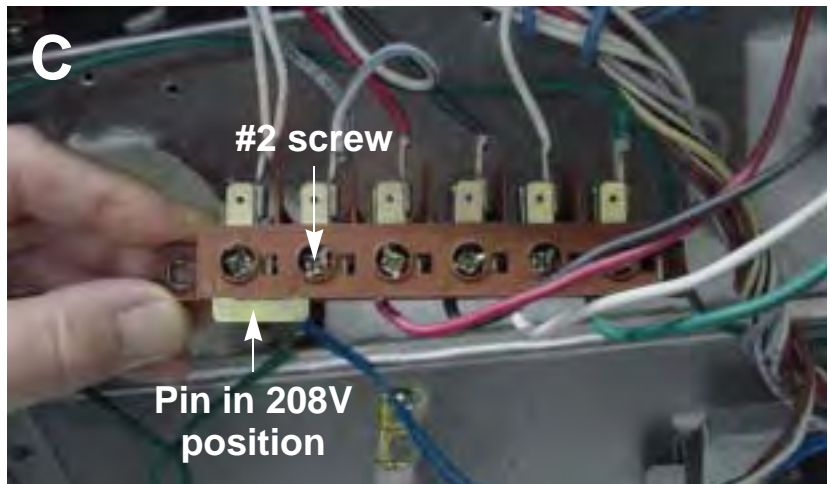
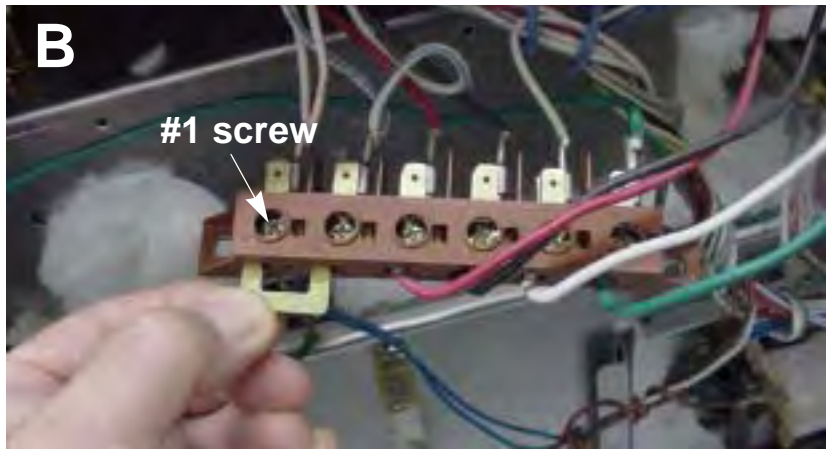
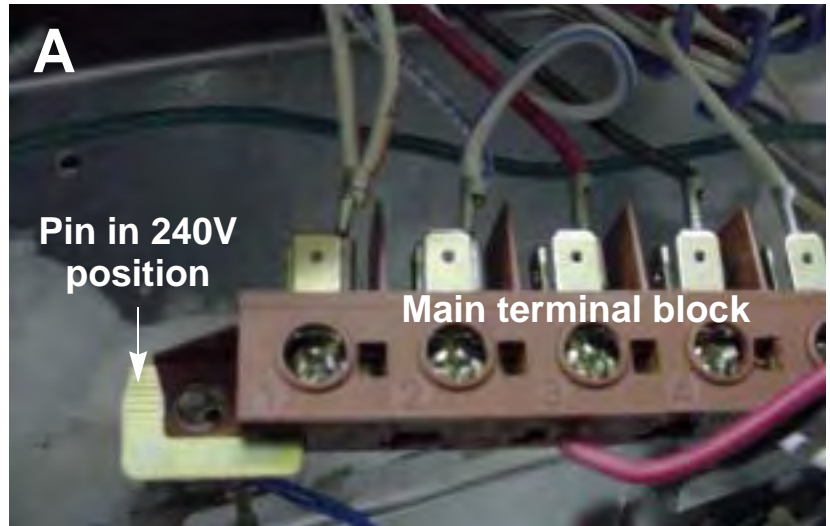
- ❑ Locate the main terminal block and verify that the pin is in the 240V position (A).

- ❑ Unscrew the first screw (in position #1) on the main terminal block and remove the pin (B).

(NOTE: Take care not to drop the pin down into the back panel.)

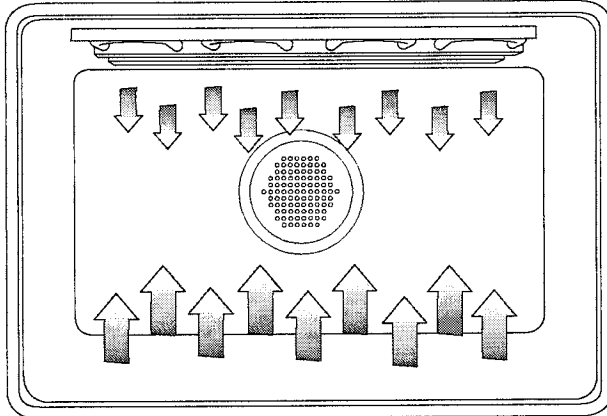
- ❑ Loosen the second screw (in position #2) on the main terminal block and insert the pin into the 208V position (between the first and second screws) (C).

- ❑ Tighten the screws and reattach the back access panel.



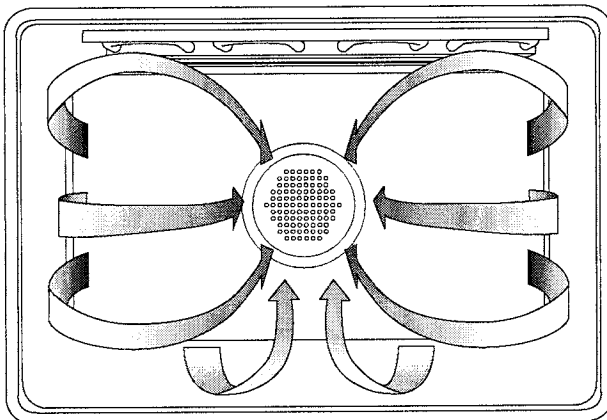
Oven Modes

The following illustrations give an overview of what happens in the oven with each mode setting. The arrows represent the location of the heat source during specific modes. The lower element is concealed under the oven floor.



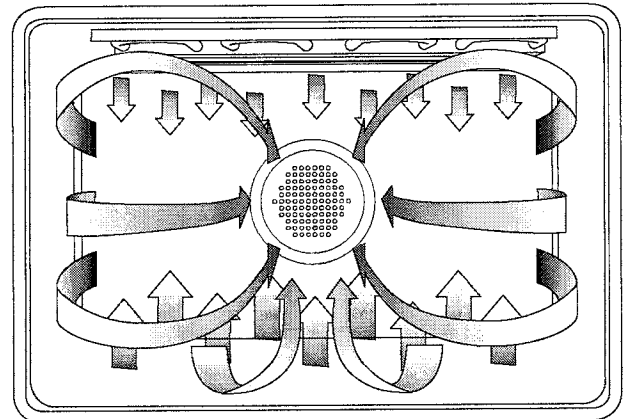
BAKE and WARMING

Baking is cooking with heated air. Both the upper and lower element cycle to maintain the oven temperature. In the Warming mode, the oven will use the lower element to maintain a low temperature to keep food at serving temperature.



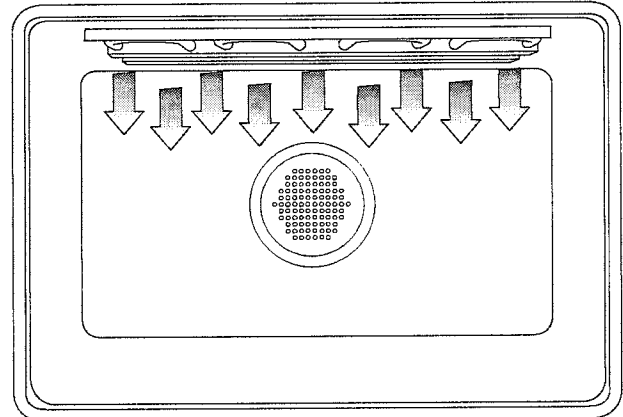
CONVECTION BAKE and DEHYDRATE

Convection Bake cooks with heat from a third element behind the back wall of the oven. The heat is circulated throughout the oven by the convection fan. Dehydrating is similar to convection cooking and holds an optimum low temperature while circulating the heated air to remove moisture slowly for food preservation.



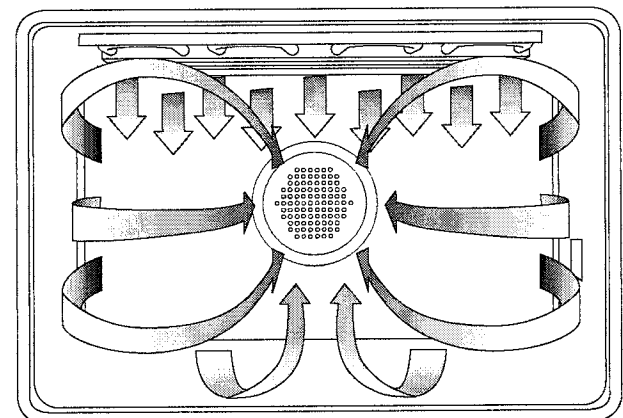
CONVECTION ROAST

Convection Roast uses the top element, bottom element and convection fan.



BROIL

Broiling uses intense heat radiated from the upper element.

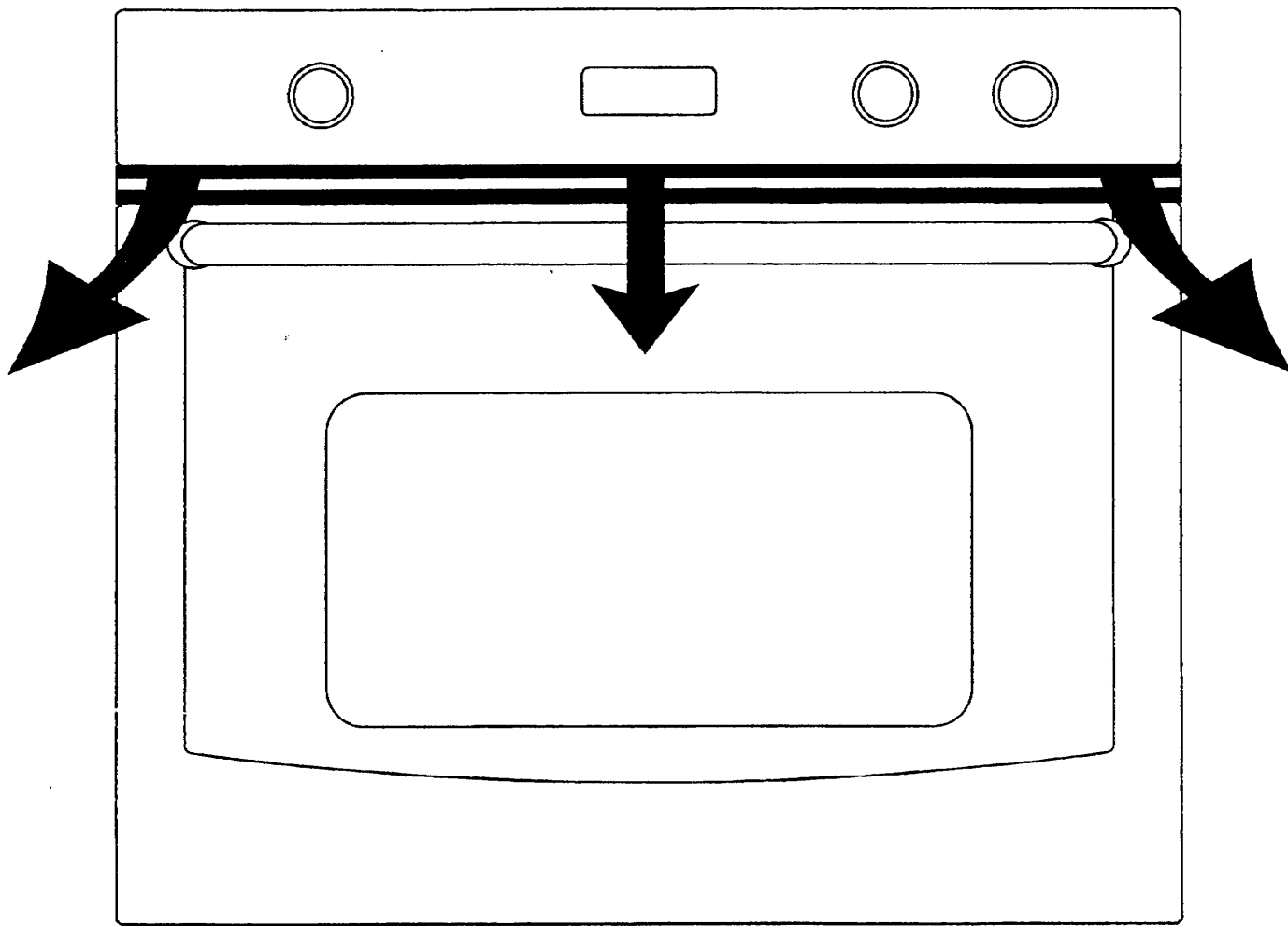


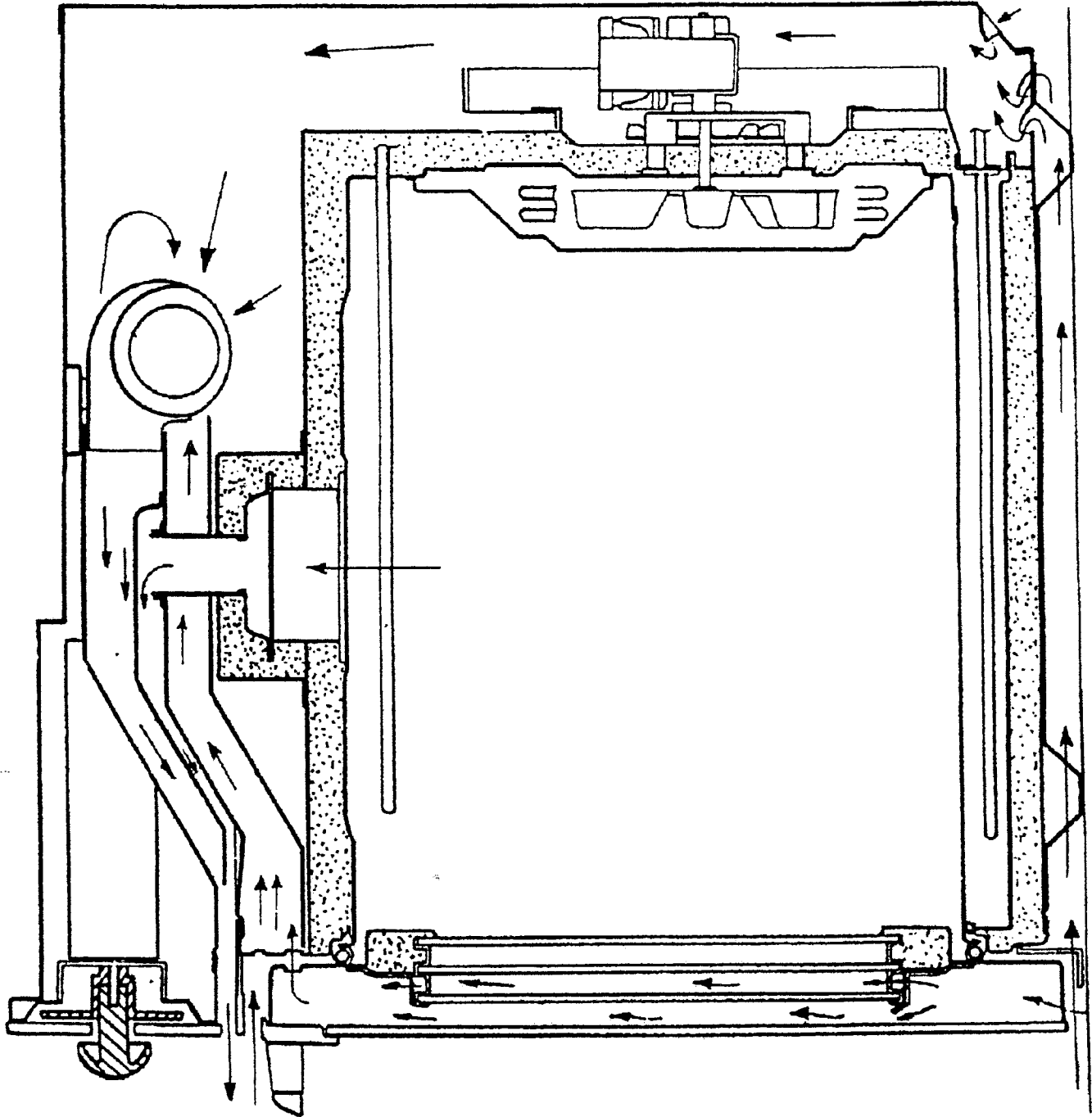
CONVECTION BROIL

Convection Broil combines the intense heat from the upper element with the heat circulated by the convection fan.

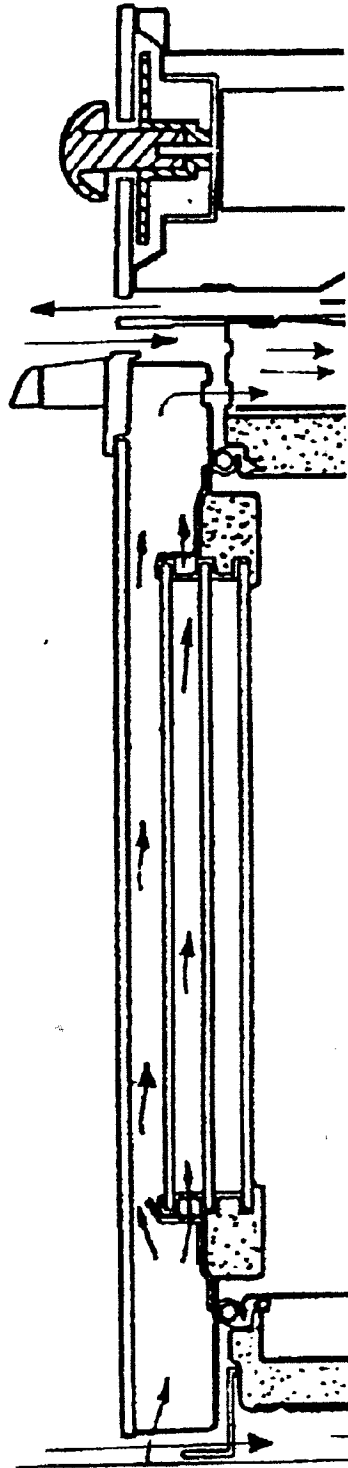
**DIFFERENCES BETWEEN
BOSCH OVENS
SERIES HBL / HBN 600
AND
NEW SERIES HBL / HBN 400**

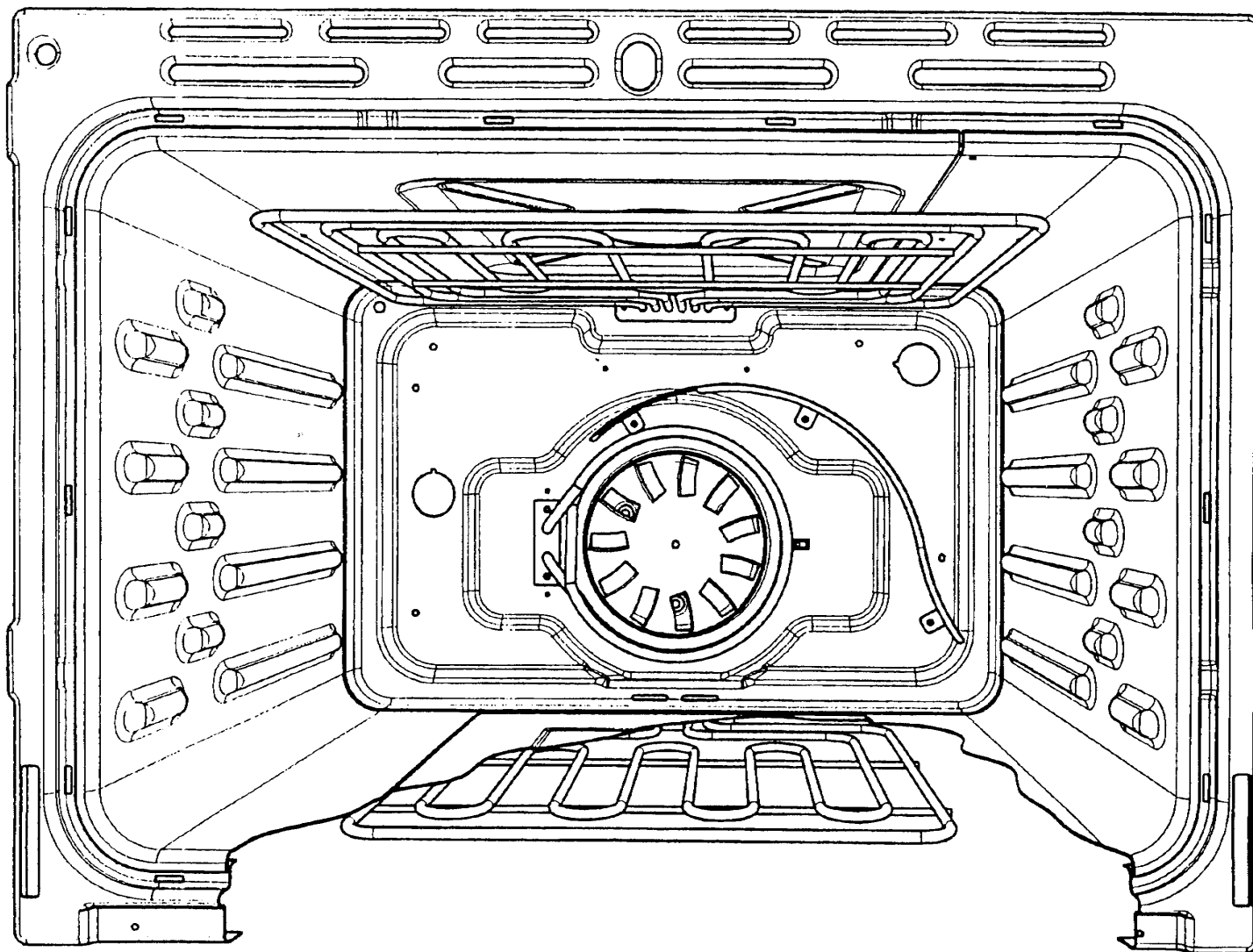
- Door handle same as series HBL / HBN 700
- New knob: protruding instead of push-push
- On stainless steel models new skins for door and control panels
- To improve cooking performances, on the fan baffle one slot is eliminated
- Improved stop position on racks
- Pan support eliminated
- Energy regulator for convection bake eliminated. The temperature swing is larger ($\pm 15^{\circ}\text{F}$ instead of $\pm 7^{\circ}\text{F}$ when set at 350°F)





PATENTED COOL TOUCH DOOR





Heating elements BSH/series 400
-convection system-

Cooking Time & Temperature Table

Thermal Cooking		Convection Cooking	
Temperature	Time	Temperature	Time
400°	30 Min.	370°	24 Min.
375°	45 Min.	350°	35 Min.
350°	60 Min.	320°	48 Min.
325°	90 Min.	300°	70 Min.

- This time and temperature table can only be an indication and can vary under different conditions!

Note:

Any time set for a recipe under the condition of Thermal Cooking mode should be reduced approximately 10% in the condition of Convection Bake Mode. This measure is based on the condition that the 400 series of BOSCH is equipped with the real European Convection System.

The time table above applies if the user is cooking on only 1 shelf.

Then the cooking time should also be reduced in accordance. E.g. by using only one level in Convection Bake the time should be reduced approximately 20 % as mentioned in a recipe for a Thermal wall oven. This rule applies if the cavity will be used in a preheated condition. If the food will be set in the cool cavity then approx. the same cooking time applies like in a Thermal.

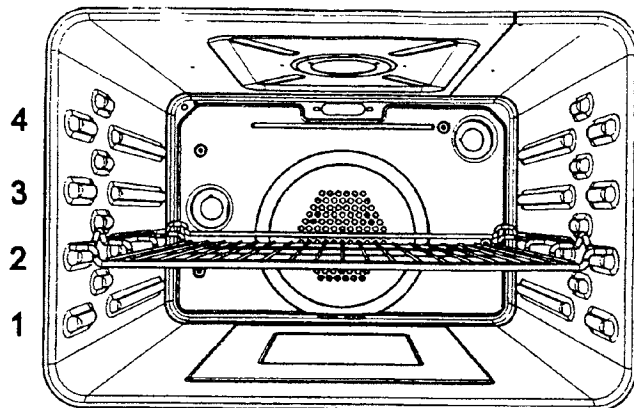
If cooking on 2 or more levels in Convection mode additional time must be added (see corresponding table).

CONVECTION BAKING

Time

Temp.

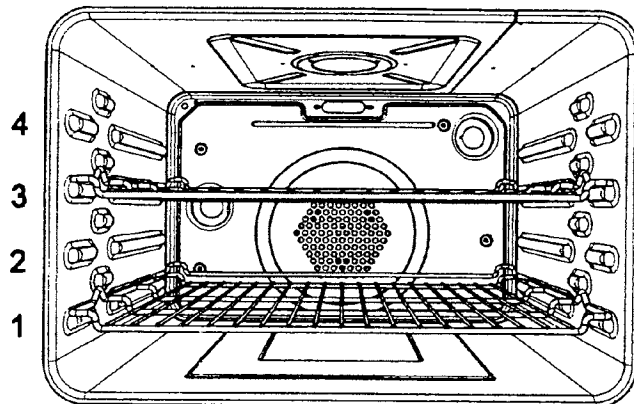
BAKING
1 level



22 min.

350°

BAKING
2 levels

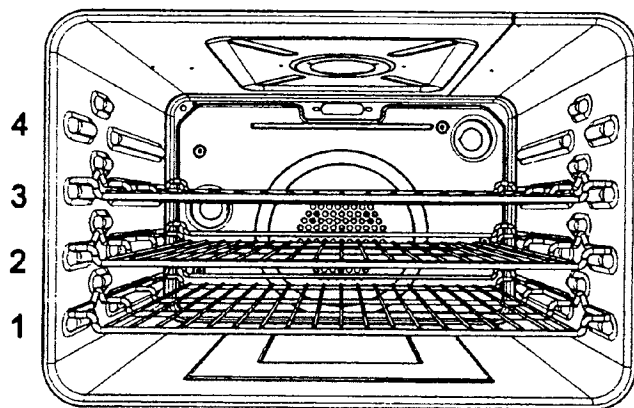


24 min.

330°

28 min.

BAKING
3 levels



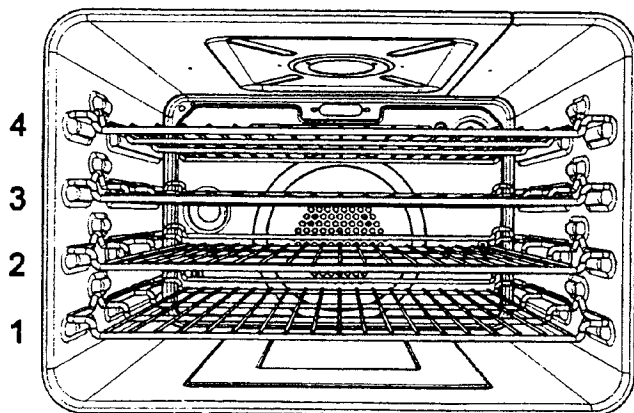
25 min.

320°

28 min.

30 min.

BAKING
4 levels



27 min.

320°

29 min.

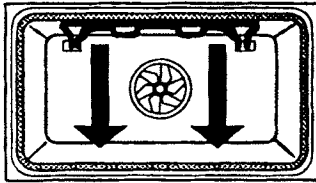
31 min.

33 min.

Cooking Function Settings

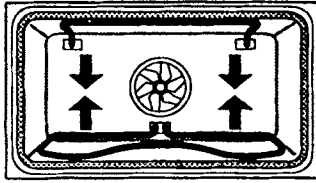
Thermal Oven

Function Information



Broil - Used for broiling. When set on Broil the two top elements operate whenever heating.

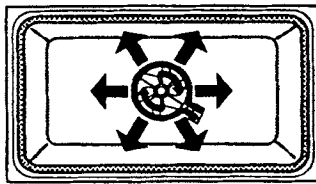
May be used with door open or closed.



Bake (Roast) - This mode is used for baking, roasting and heating of casseroles, etc. When set on Bake the top element and the bottom element operate whenever heating.

Note: Lower element shown for clarity only. Lower element actually is located below floor of cavity

Convection Ovens have following additional cooking functions



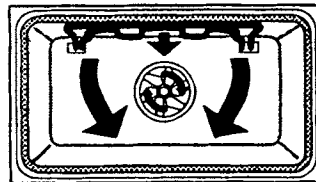
Convection Bake - The most versatile mode for baking and heating a variety of dishes. Also recommended for preparing large quantities of food on several racks.

When set on Convection the rear circular bake element operates whenever heating. Fan operates.

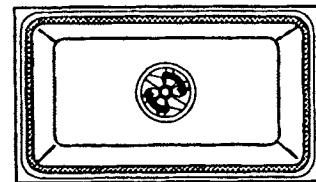


Convection Roast - Use for roasting. When set on Convection Roast the top element and the bottom element operate whenever heating. Fan operates.

Note: Lower element shown for clarity only. Lower element actually is located below floor of cavity

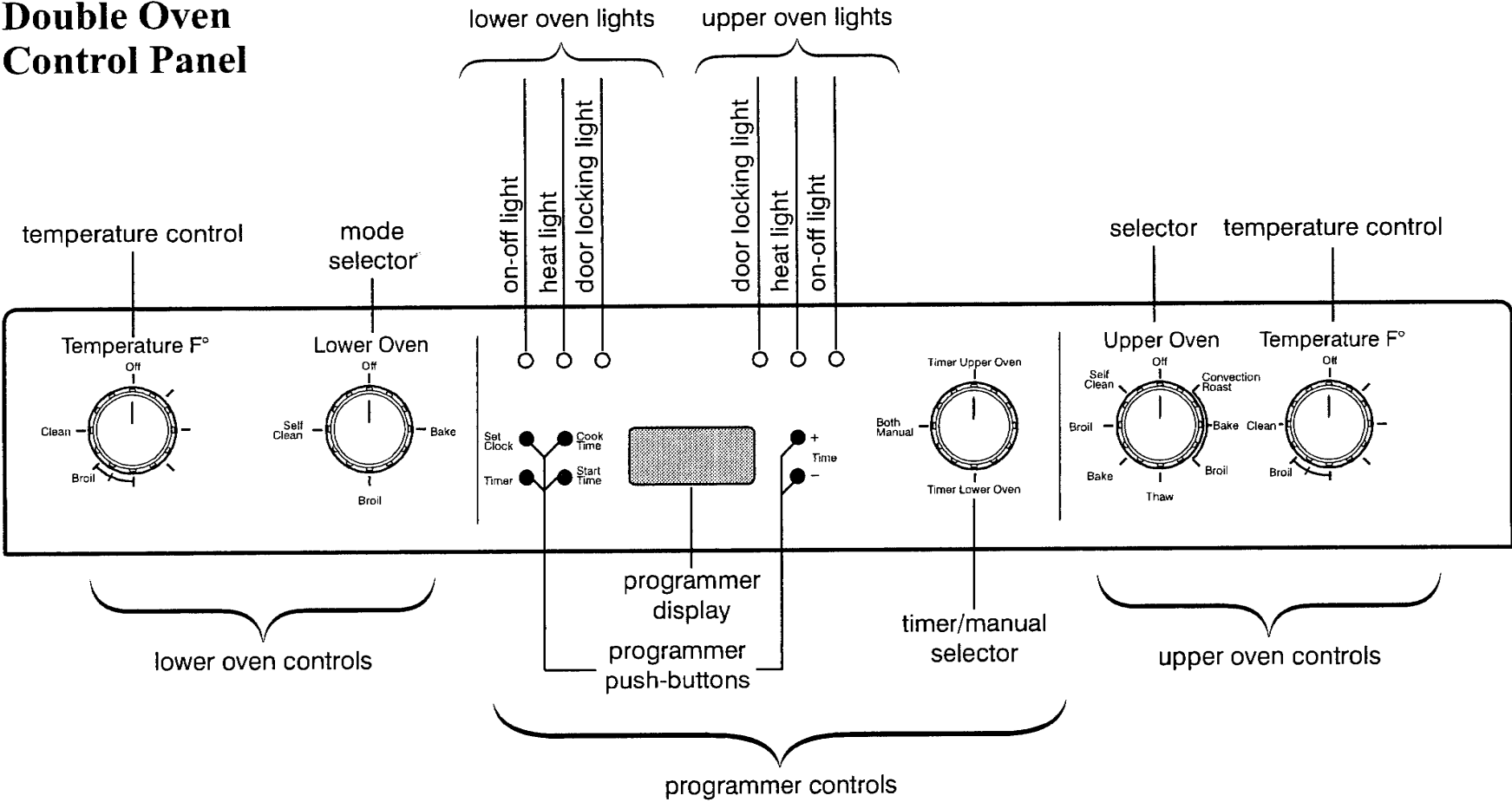


Convection Broil - Use of fish and broiling thick cuts of meat. The door must be closed when Convection Broiling. When set on Convection Broil both top elements operate whenever heating. Fan operates.

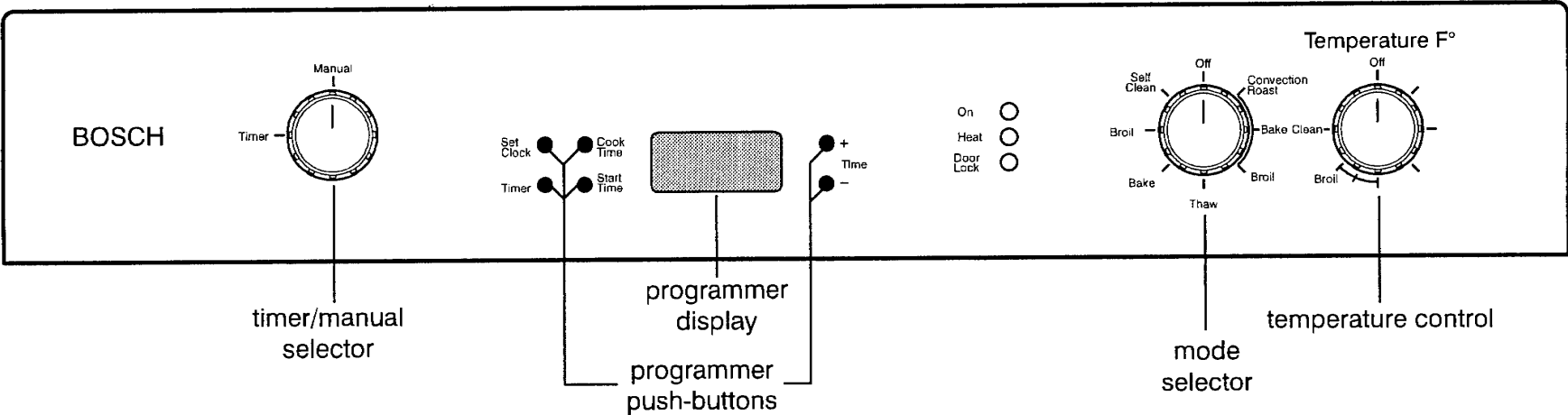


Thaw - Use for defrosting. When set on Thaw no elements operate, only the fan is on.

Double Oven Control Panel



Single Oven Control Panel



Set
Clock



Cook
Time

Timer



Start
Time

ON
DELAY

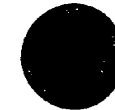
12 HR : 22 MN

SET ⌚
COOK
START
CLEAN
TIMER



+

Time



-

Guidelines and Hints when using Convection Bake Mode:

- 1.** BSH series 400 allows to use up to 4 levels at one time. This means e.g. that 4 sheets of chocolate chip cookies or four levels of Pizzas can be baked to perfection at the same time.
- 2.** If using more than 1 sheet the temperature must be reduced accordingly. At the same time a few minutes per additional sheet must be added for the cooking process.
- 3.** To reach the best possible results it is important to be aware that the cooking time at the different levels can vary, depending on the levels used.
- 4.** By using more than one level a lot of moisture will occur in the cavity and the door window could collect steam and gets foggy. This is normal and after some minutes the moisture will disappear and the door glass will be clear again.
- 5.** The cookie sheets should always be smaller than the grid to be placed on. One inch distance on each side should be sufficient to allow a good airflow surrounding the food.
- 6.** Improved baking results will be reached by placing a metal bowl with water on the bottom of the cavity during the Convection Bake mode.
- 7.** Many kind of food can be placed in the cold cavity if choosing Convection Cooking modes. But in case of recipes for very sensitive cookies we recommend to place them in the preheated oven. The cavity has reached the set temperature after the preheat indication light turns off the first time.
- 8.** It is important to set the food on the recommended levels when using 1, 2 or 3 levels at the same time.

Use and Settings of the Electronic Timer

The electronic timer is a 12 hour unit without am and pm indication. The timer enables cooking of food with automatic shut-off of the heating elements and works in all cooking modes. Additionally the unit is equipped with a timer function without automatic shut-off function.

To set the electronic timer follow the steps:

1. **Set Day Time:** Push first the "Set Clock" button and then push the + button to set the correct time. If the + button was pushed too long the time can be adjusted by pushing the - button. After the right time is set the "Set Clock" button must be pushed again within 5 seconds to enter the correct time.
2. **Set the Cook Time:** Push first the "Cook Time" button and then push the + button to set the desired time for preparing the food. Any necessary adjustments can be made by pushing the - button. After the right "Cook Time" is set the "Cook Time" button must be pushed again within 5 seconds to enter the correct time.
 - Cancellation of the Cook Time can be made by pushing "Cook Time" button twice shortly.
3. **Set Start Time:** First push the "Start Time" button and then push the + button to set the desired Start Time. Any necessary adjustments can be made by pushing the - button. After the right "Start Time" is set the "Start Time" button must be pushed again within 5 seconds to enter the correct time.
 - Cancellation of the Start Time can be made by pushing "Start Time" button twice shortly.

4. Set Timer: Push first the "Timer" button and then push the + button. Any necessary adjustments can be made by pushing the - button.
After the right "Timer" time is set the "Timer" button must be pushed again within 5 seconds to enter the correct time.

Note:

At the end of the set time an acoustic "Beep" will sound in intervals of ten seconds. After pushing any of the buttons at the electronic timer the "Beep" will stop.
Automatic cooking can only work if the Cooking mode and the right Temperature was selected before.
Double wall oven units are equipped with a selector switch.
The switch can be set in three positions:

- Timer Upper Oven
- Both Manual
- Timer Lower Oven

The electronic timer can either set to control automatically the Upper Oven or alternatively the Lower Oven. In the setting position "Both Manual" in none of the cavities can be cooked automatically.

If e.g. the "Upper Oven" is set automatically then the "Lower Oven" can be operated only manually.

Maintaining And Cleaning

1. To clean the cavity and the inner door never use any metal tool. After the Pyrolytic Cleaning process use only a damped cloth or sponge with dish soap for final cleaning of the surfaces.
2. Grids and cookie sheets must always be removed before using the Selfcleaning mode. Otherwise chromed metal grids will be discolored and not be shiny anymore.
3. The cleaning time can be chosen between 2- 4 hours depending on the level of soil the cavity has collected.
4. If the door gasket has become dirty it should only be cleaned very carefully with a damped and soaped rag. Consider that the Selfcleaning process will not clean the gasket.
5. Particles or dust between the glass layers of the door window can only be cleaned after disassembling of the complete door. This operation should only be done by an authorized service technician.
6. The front surface of the unit should be cleaned only with soapy water and a rag or sponge.
7. Stainless steel panels must be carefully cleaned with a soft damped rag or sponge and dish soap. Never use any rubbing materials like metal wool, abrasive sponges or scouring pads of any type. This will create shiny marks or scratches which never can be repaired and will remain. Clean the stainless steel panels always only in one direction and follow the satinated structure on the panels.

16CH/127

2CH/426
MSW

4CH/259
CSW

SW^a

SW^b

OFF 0

BAKE 1

BROIL 2

SELF CLEAN 3

POS.	PR23 - VRF		PR12 - PRP		PR11 - PRF		PR24 - VR		FI - FF		FI - FP		BPI - BPU		PR21 - L		CR - RGC		CR - RGD		PR3 - RGA		PR3 - RGB		PR3 - C		PR3 - RSI		PR3 - RSE	
	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a-11a	12a	13a	14a	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
0																														
1	X	X		X		X							X									X			X	X				
2	X	X		X		X							X	X							X									
3	X	X	X		X		X	X					X	X							X	X		X	X					

POS.	1	2	4
TIMER			
MANUAL	X		

POS.	1	2	4
0 (OFF)			
> 0-500 P			X
SELF CLEAN	X	X	

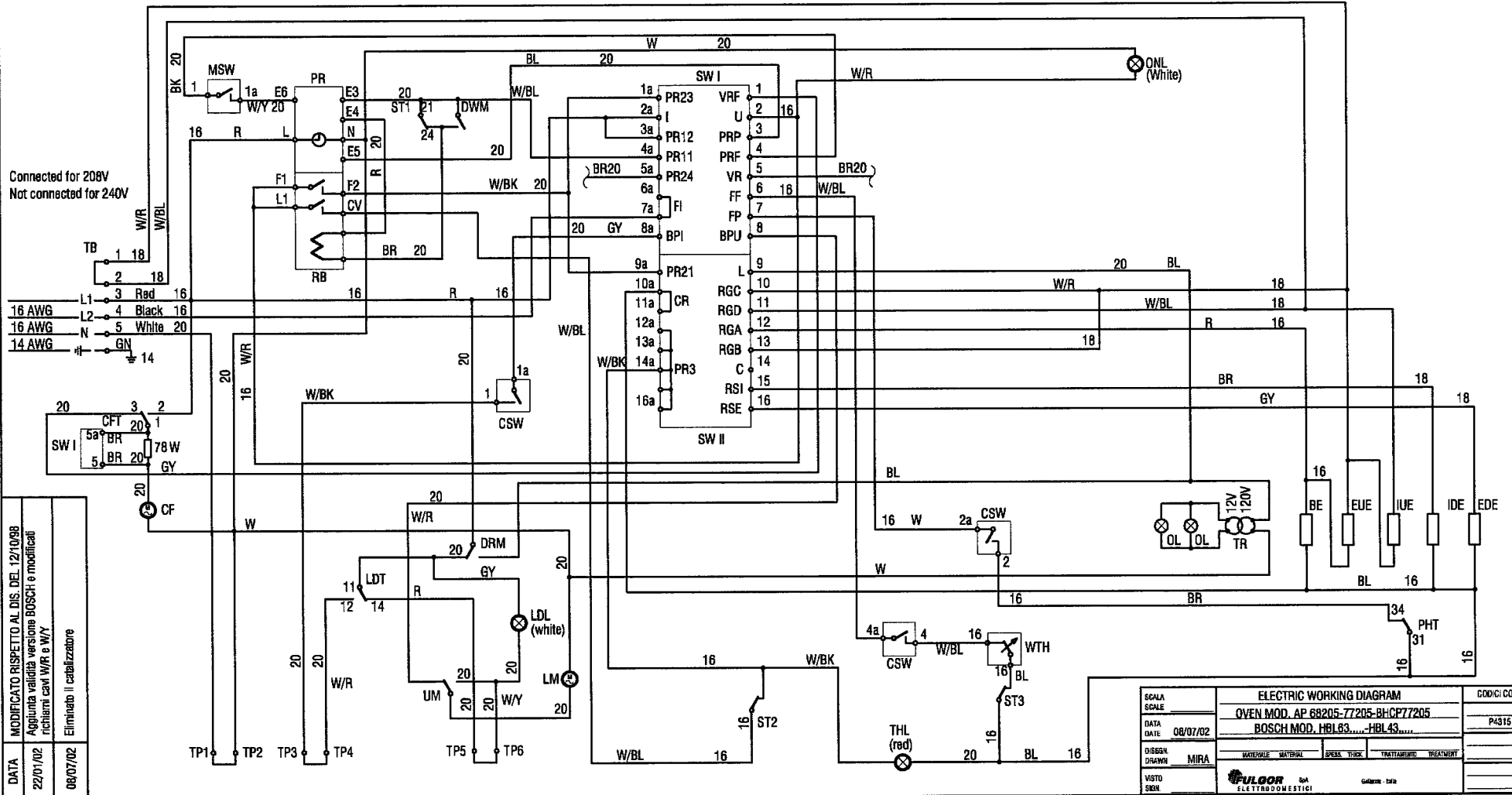
- PR: Programmer
- SW: Switch-combinator
- CSW: Clean switch
- OL: Oven lamp 12V-20W
- WTH: Working thermostat
- CFT: Cooling fan thermostat
- LDT: Locking door thermostat
- PTH: Pyrolytic thermostat
- ST: Safety thermostat
- BE: Broil element
- IUE: Internal up element
- EUE: External up element
- IDE: Internal down element
- EDE: External down element

- CF: Cooling fan
- TR: Transformer 120V-12V 40W
- ONL: On/Off warning light
- LDL: Locking door warning light
- THL: Thermostat warning light
- MSW: Manual switch
- LM: Locking motor
- DRM: Door microswitch
- DWM: Down microswitch
- UM: Up microswitch
- TP: Test point
- RB: Relay board
- TB: Terminal block

	68000	77000
1750W	1750W	1750W
348W(111V)	348W(111V)	348W(111V)
1400W	1400W	1400W
1200W	1400W	1400W
400W	600W	600W

WIRE COLOR CODE					
R	Red	22	GN	Green	55
W	White	99	W/BL	White/Blue	69
BK	Black	00	W/BK	White/Black	09
BL	Blue	66	W/R	White/Red	29
BR	Brown	11	W/Y	White/Yellow	49
GY	Grey	90			

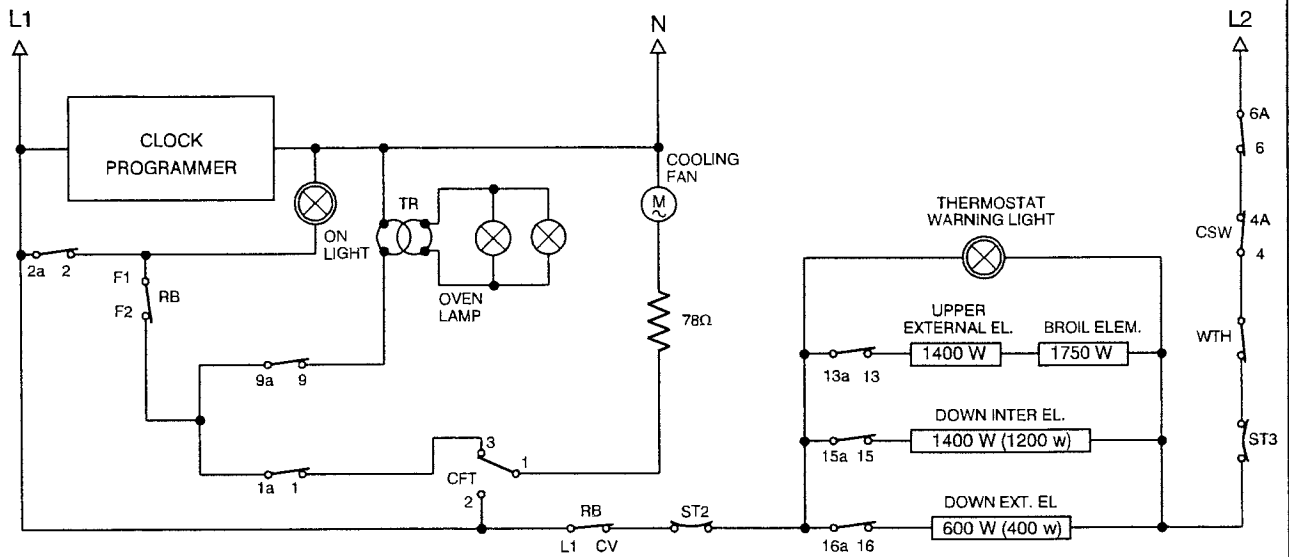
NOTE: THE NUMBERS 14-16-18-20 INDICATE THE SECTION OF THE WIRES (AWG)



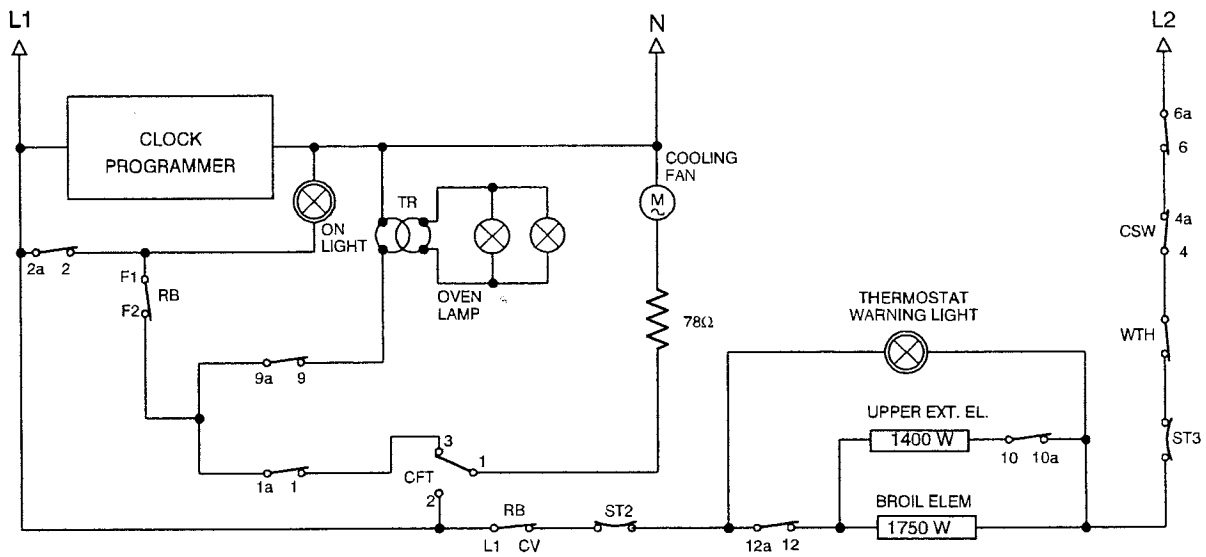
MODIFICATO RISPETTO AL DIS. DEL 12/10/89
 Aggiunta validità versione BOSCH e modificati
 richiami cav. W/R e W/Y
 Eliminato il capilizzatore

SCALE	ELECTRIC WORKING DIAGRAM	CODICI CODES
SCALE	OVEN MOD. AP 68205-77205-BHCP77205	P4315
DATA DATE	BOSCH MOD. HBL 63.....HBL 43.....	
DISEGNO DRAWN	MIRA	
VISTO SEEN	FULGOR S.p.A. SLETTRDOMESTICI	

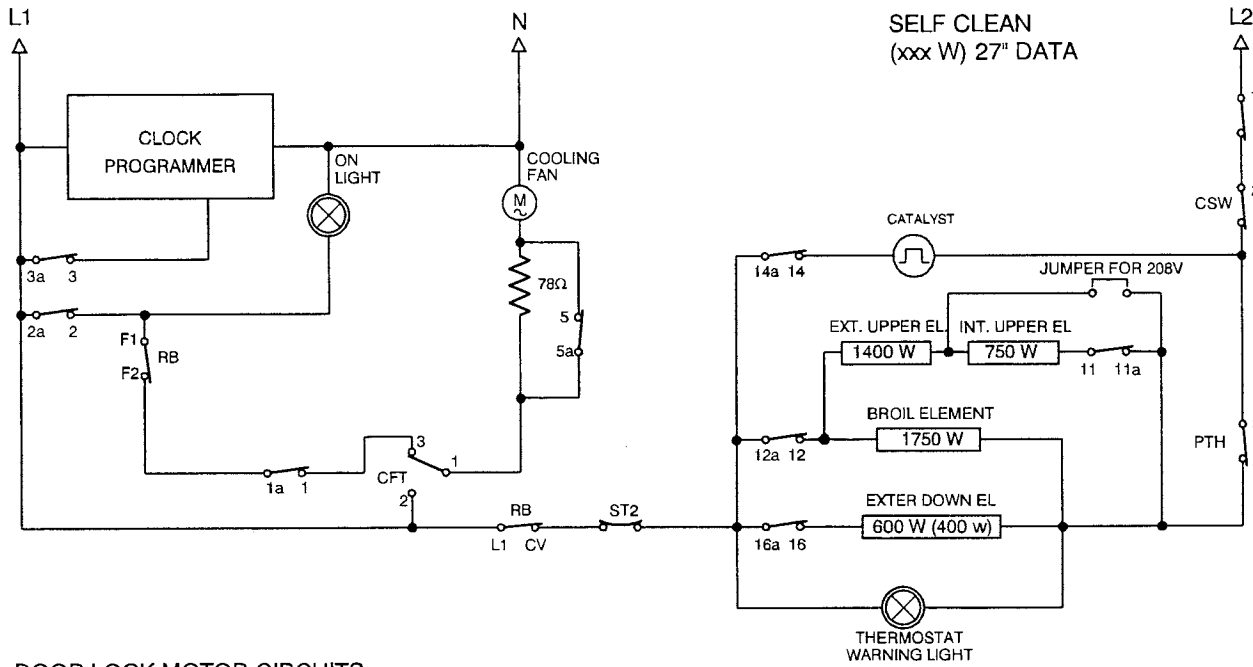
BAKE
(xxx W) 27" DATA



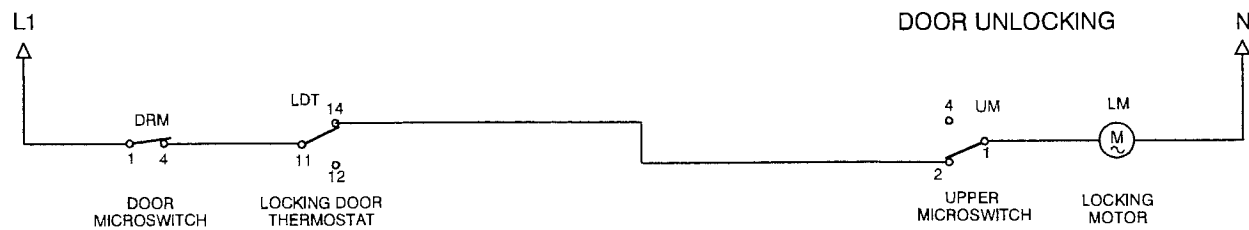
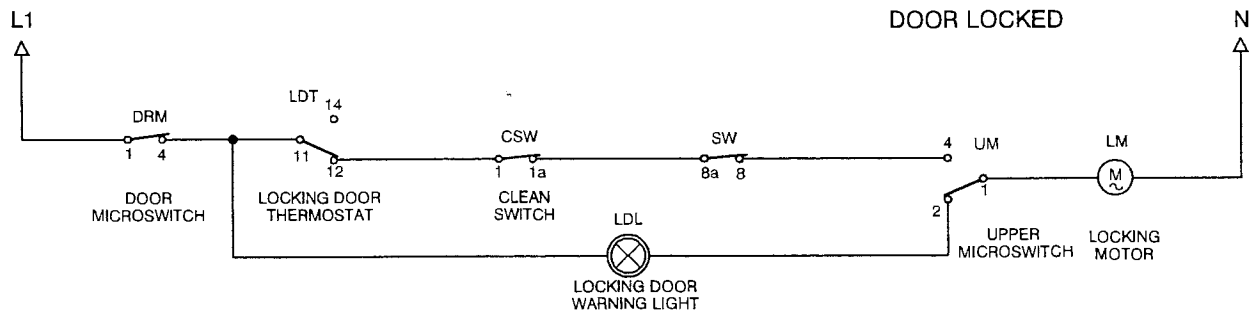
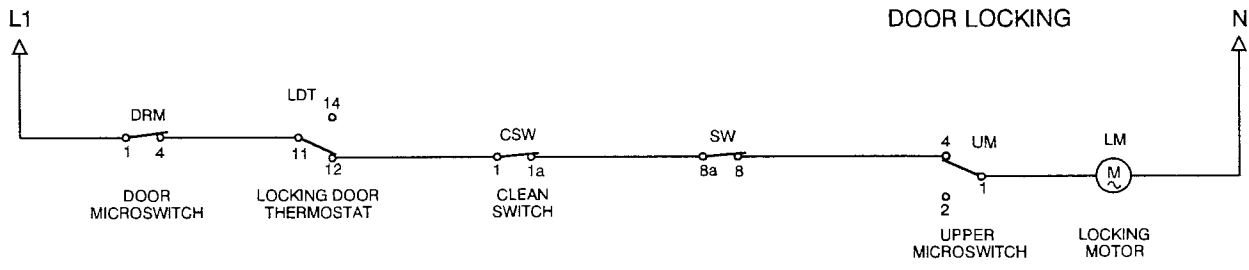
BROIL



BOSCH PYROLITIC OVEN MOD. HBL 43_A UC HBN 43_A UC



DOOR LOCK MOTOR CIRCUITS



20CH/17MZ

SW'	PRF		PRP		FP		FV		FF		VRF		VR		L		BPU		MV		RGC		RGD		RGA		RGB		C		RV		RSI		RSE		U
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20																	
OFF 0	0																																			X	
CONV. ROAST	1	X			X	X	X	X	X																										X	X	X
CONV. BAKE	2	X			X	X	X	X	X	X																										X	
CONV. BROIL	3	X			X	X	X	X	X	X	X																									X	
THAW	4	X					X	X	X	X																										X	
BAKE	5	X				X	X	X	X																											X	
BROIL	6	X				X	X	X	X																											X	
SELF CLEAN	7		X	X			X	X	X	X	X																									X	

2CH/426 MSW

POS.	1	1a
TIMER		
MANUAL	X	

4CH/259 CSW

POS.	1	2	4
0 (OFF)			
>0-500 F			X
SELF CLEAN	X	X	

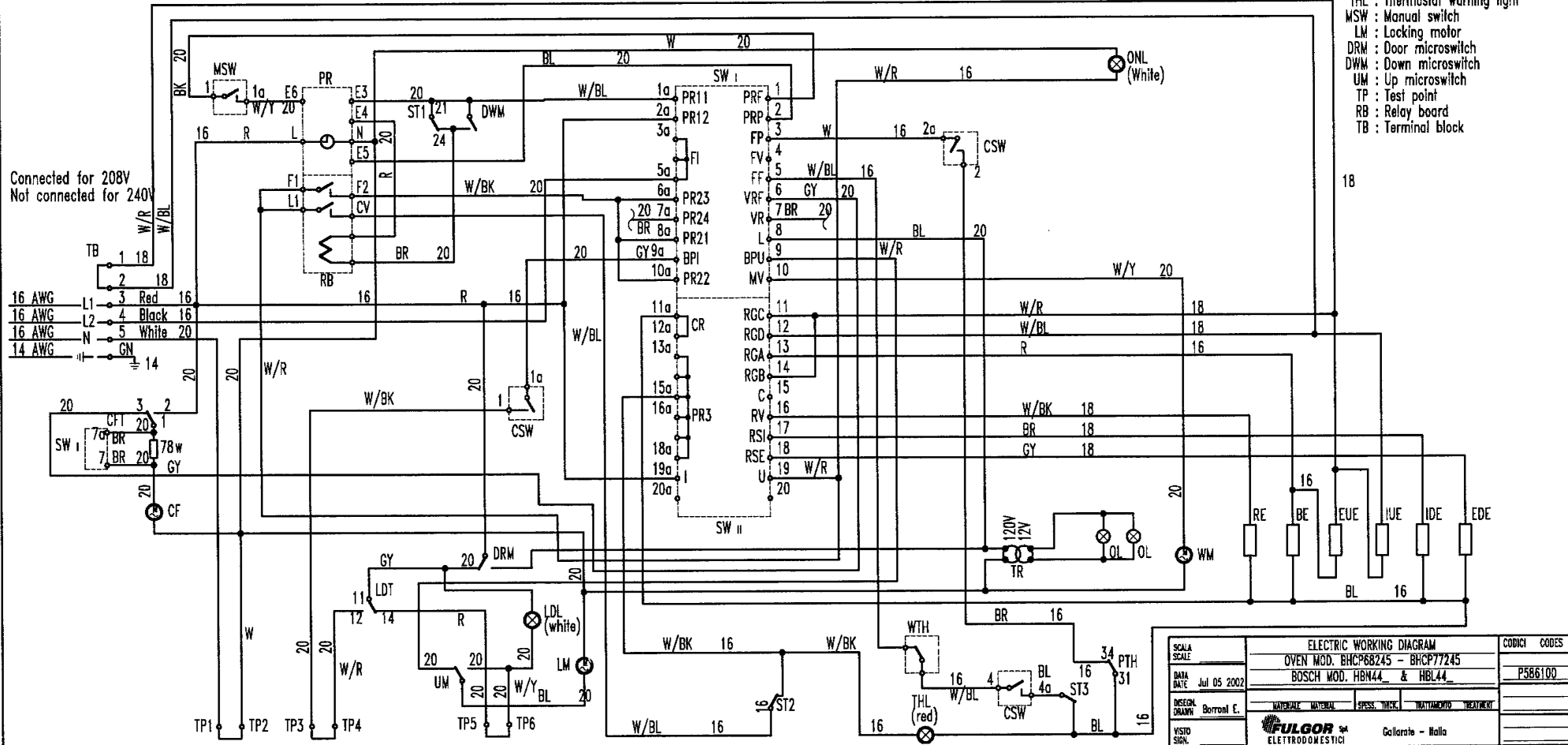
WIRE COLOR CODE

R	Red	22	GN	Green	55
W	White	99	W/BL	White/Blue	69
BK	Black	00	W/BK	White/Black	09
BL	Blue	66	W/R	White/Red	29
BR	Brown	11	W/Y	White/Yellow	49
GY	Grey	90			

NOTE: THE NUMBERS 14-16-18-20 INDICATE THE SECTION OF THE WIRES (AWG)

- PR : Programmer
- SW : Switch-commutator
- CSW : Clean switch
- OL : Oven lamp 12V-20W
- WTH : Working thermostat
- CFT : Cooling fan thermostat
- LDT : Locking door thermostat
- PTH : Pyrolytic thermostat
- ST : Safety thermostat
- BE : Broil element
- RE : Ring element
- IUE : Internal up element
- EUE : External up element
- IDE : Internal down element
- EDE : External down element
- CF : Cooling fan
- WM : Working motor

- TR : Transformer 40W 120V-12V
- ONL : On/Off warning light
- LDL : Lacking door warning light
- THL : Thermostat warning light
- MSW : Manual switch
- LM : Locking motor
- DRM : Door microswitch
- DWM : Down microswitch
- UM : Up microswitch
- TP : Test point
- RB : Relay board
- TB : Terminal block



SCALE	ELECTRIC WORKING DIAGRAM		CODICI CODES
DATA DATE	OVEN MOD. BHCP68245 - BHCP77245		P586100
DESIGN DRAWN	BOSCH MOD. HBN44 & HBL44		
VISTO SIGNAL	FULGOR ELETTRODOMESTICI		

20CH/17MZ

SW	POS.	PR11 - PRF		PR12 - PRP		FI - FP		FI - FV		FI - FF		PR23 - VRF		PR24 - VR		PR21 - L		BPI - BPU		PR22 - MV		CR - RGC		CR - RGD		PR3 - RGA		PR3 - RGB		PR3 - C		PR3 - RV		PR3 - RSI		PR3 - RSE		I - U	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1a	2a	3a	5a	6a	7a	8a	9a	10a	11a	12a	13a	15a	16a	18a	19a	20a	
OFF	0																																						X
CONV. ROAST	1	X				X	X			X	X															X													X
CONV. BAKE	2	X				X	X			X	X																												X
CONV. BROIL	3	X				X	X			X	X														X														X
THAW	4	X				X	X			X	X																												X
BAKE	5	X				X	X			X	X															X													X
BROIL	6	X				X	X			X	X													X		X													X
SELF CLEAN	7		X	X						X	X													X	X														X

2CH/426
MSW

POS.	1	1a
TIMER		
MANUAL	X	

4CH/259
CSW

POS.	1		2		4	
	1a	2a	2a	4a	4a	4a
0 (OFF)						
>0-500 F						X
SELF CLEAN	X	X				

WIRE COLOR CODE					
R	Red	22	GN	Green	55
W	White	99	W/BL	White/Blue	69
BK	Black	00	W/BK	White/Black	09
BL	Blue	66	W/R	White/Red	29
BR	Brown	11	W/Y	White/Yellow	49
GY	Grey	90			

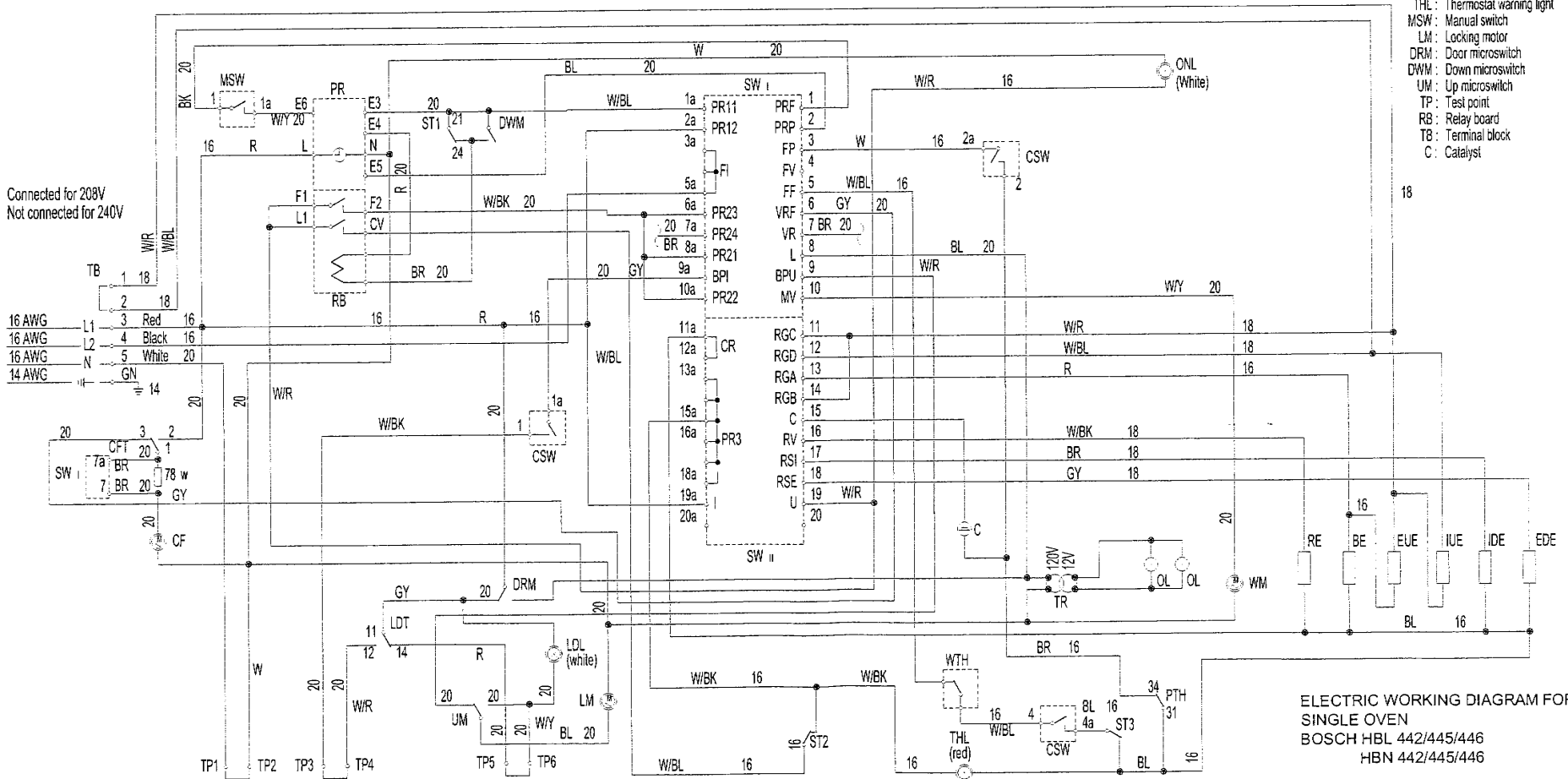
NOTE: THE NUMBERS 14-16-18-20 INDICATE THE SECTION OF THE WIRES (AWG)

- PR: Programmer
- SW: Switch-commutator
- CSW: Clean switch
- OL: Oven lamp 12V-20W
- WTH: Working thermostat
- CFT: Cooling fan thermostat
- LDT: Locking door thermostat
- PTH: Pyrolytic thermostat
- ST: Safety thermostat
- BE: Broil element
- RE: Ring element
- IUE: Internal up element
- EUE: External up element
- IDE: Internal down element
- EDE: External down element
- CF: Cooling fan
- WM: Working motor

	6800	7700
348W(111V)	348W(111V)	348W(111V)
1400W	1400W	1400W
1200W	1400W	1400W
400W	600W	600W

- TR: Transformer 40W 120V-12V
- ONL: On/Off warning light
- LDL: Locking door warning light
- THL: Thermostat warning light
- MSW: Manual switch
- LM: Locking motor
- DRM: Door microswitch
- DWM: Down microswitch
- UM: Up microswitch
- TP: Test point
- RB: Relay board
- TB: Terminal block
- C: Catalyst

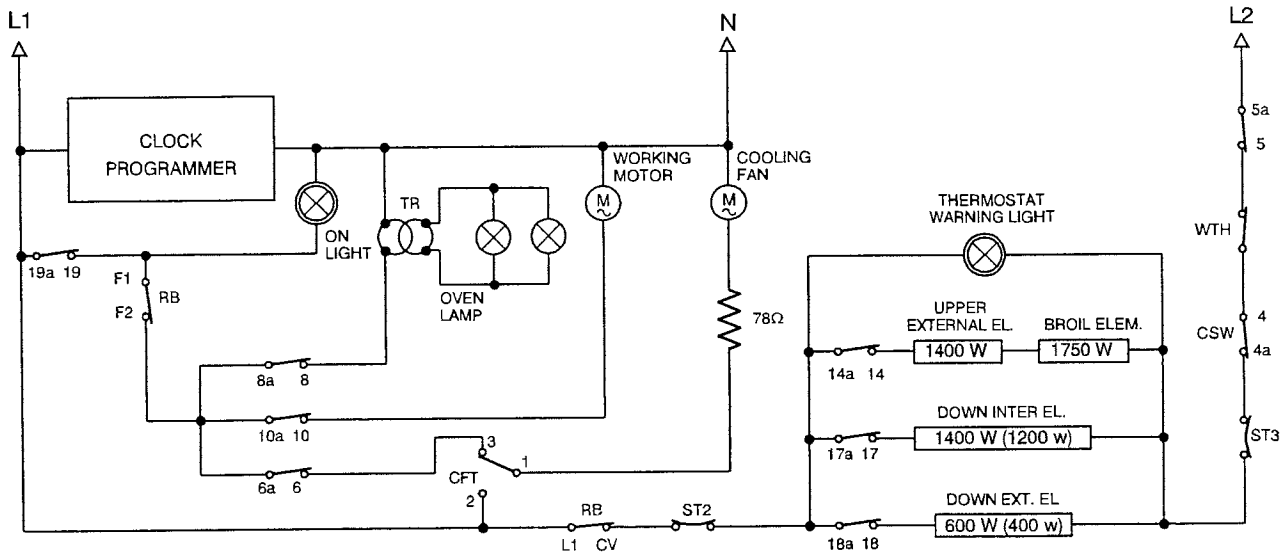
Connected for 208V
Not connected for 240V



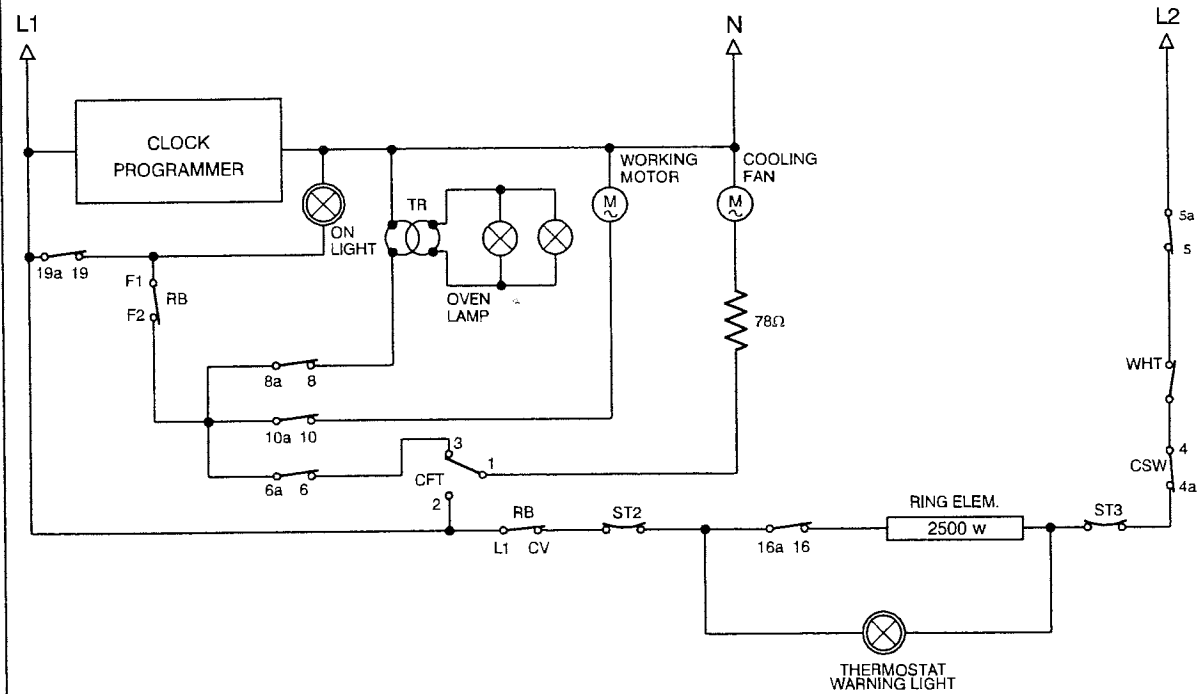
ELECTRIC WORKING DIAGRAM FOR
SINGLE OVEN
BOSCH HBL 442/445/446
HBN 442/445/446

BOSCH PYROLITIC OVEN MOD. HBL 44_A UC HBN 44_A UC

CONV. ROAST
(xxx W) 27" DATA

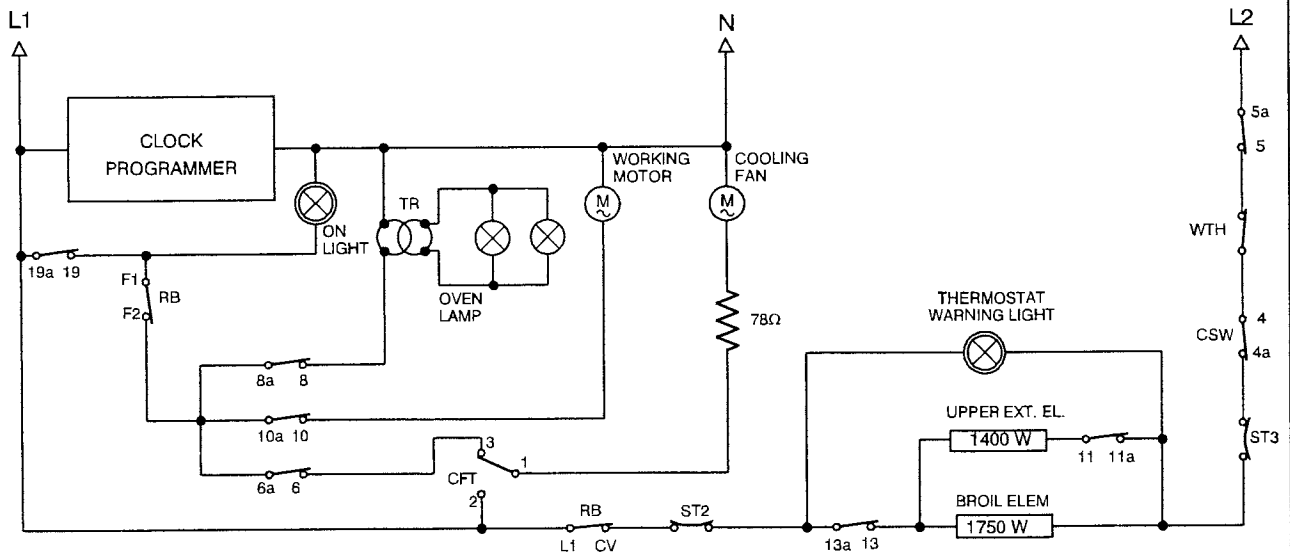


CONV. BAKE

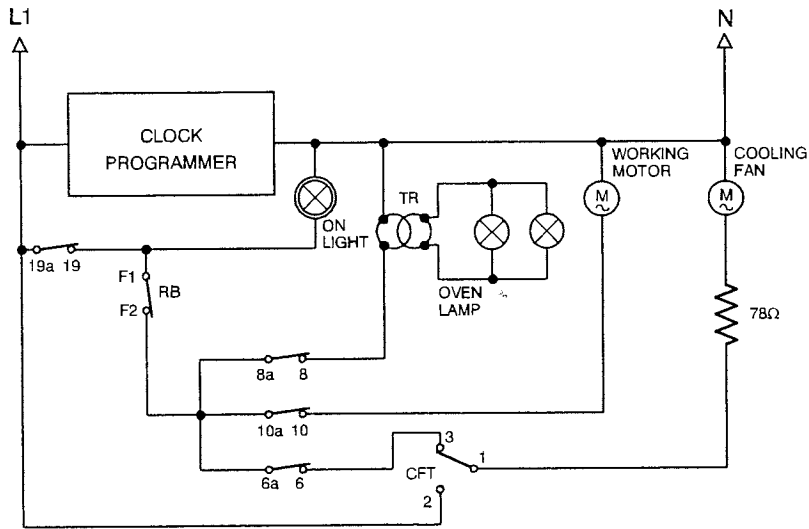


BOSCH PYROLITIC OVEN MOD. HBL 44_A UC HBN 44_A UC

CONV. BROIL

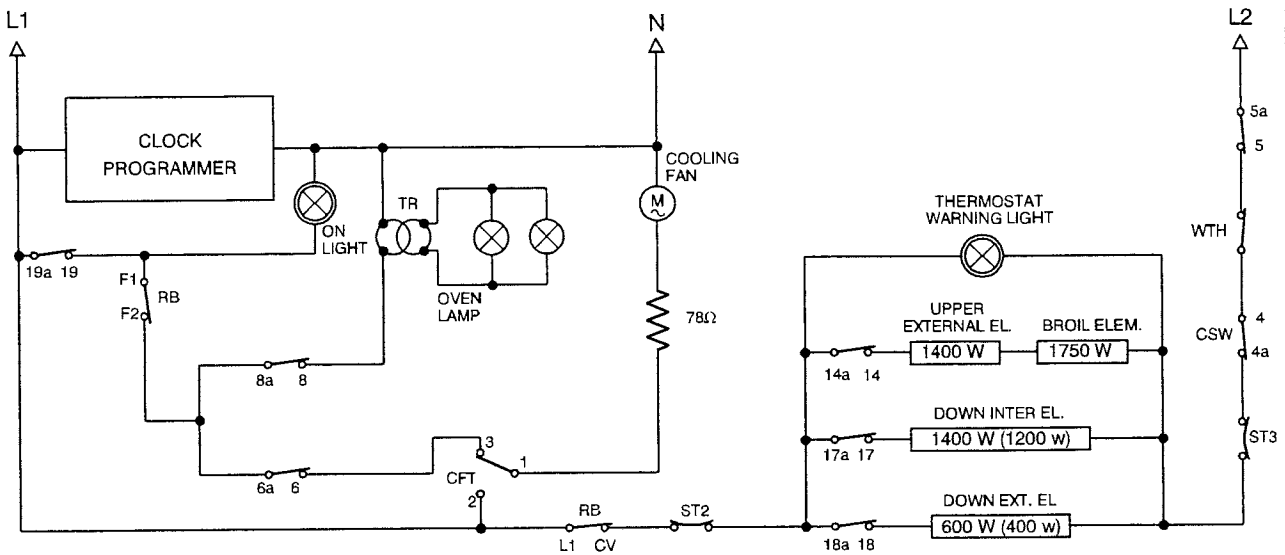


THAW

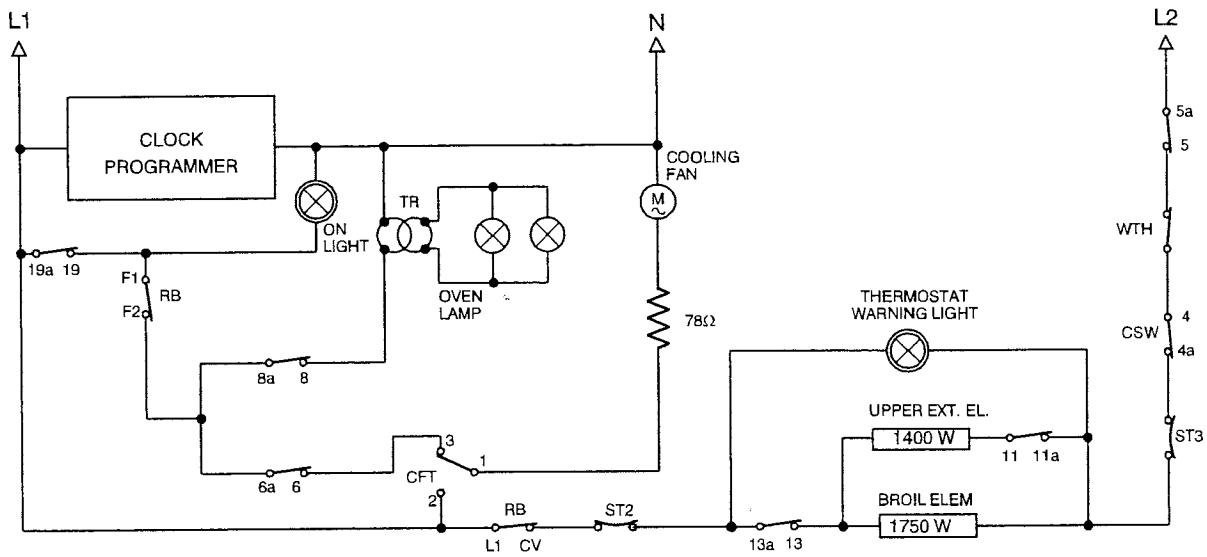


BOSCH PYROLITIC OVEN MOD. HBL 44_A UC HBN 44_A UC

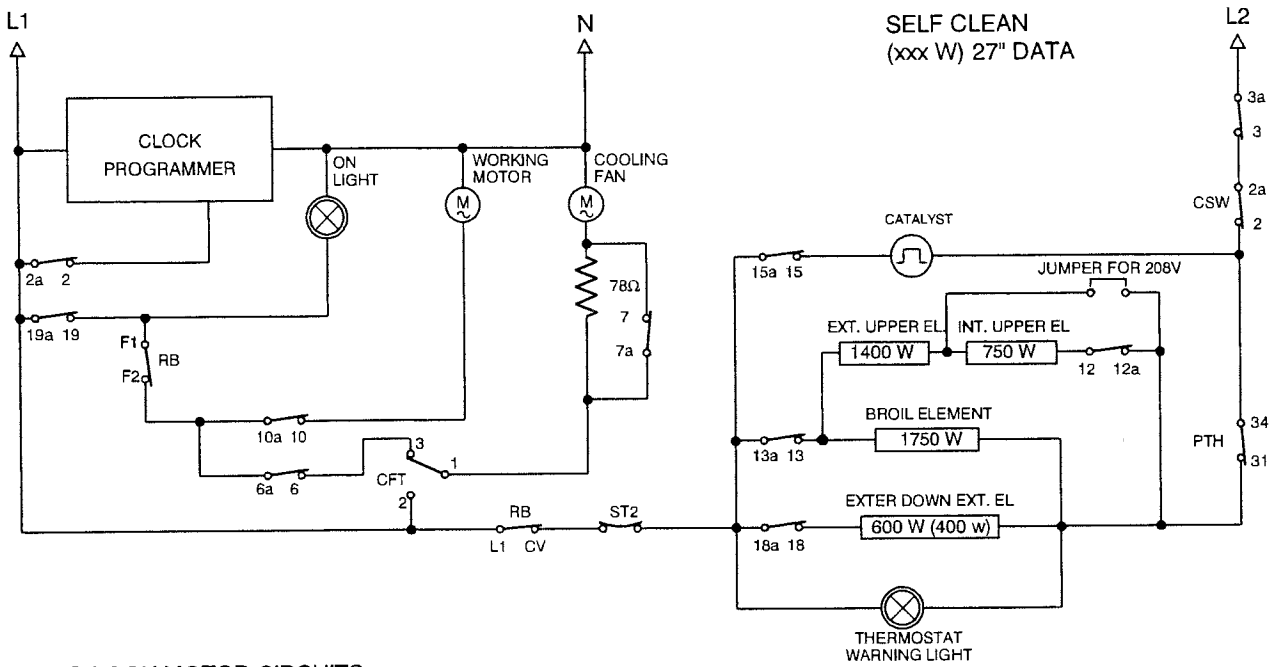
BAKE
(xxx W) 27" DATA



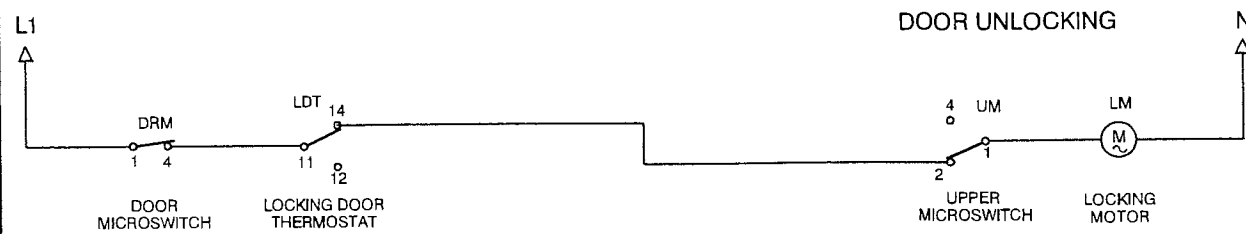
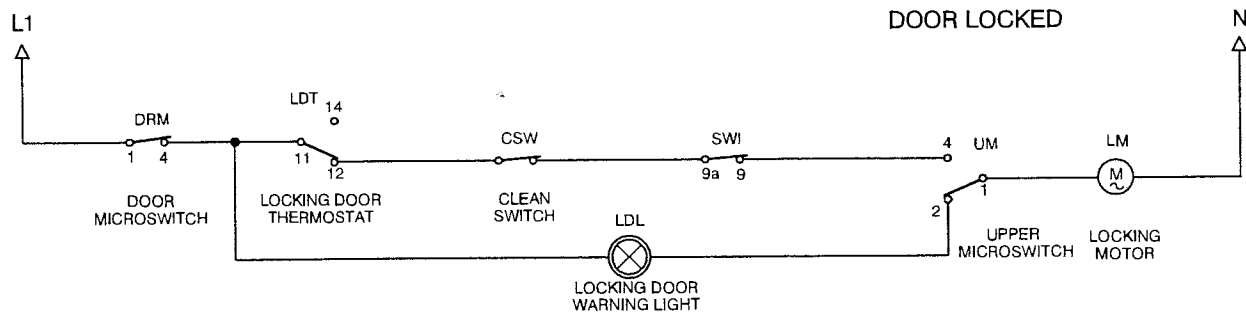
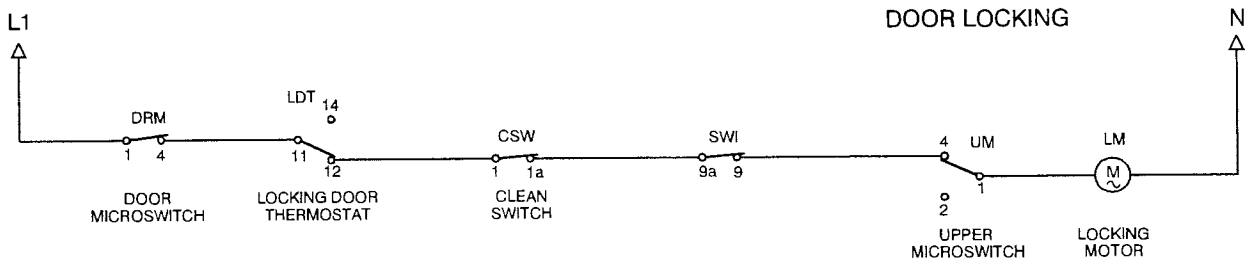
BROIL



BOSCH PYROLYTIC OVEN MOD. HBL 44_A UC HBN 44_A UC



DOOR LOCK MOTOR CIRCUITS



20CH/17M2

SW1	POS.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
OFF	0																					X
CONV. ROAST	1	X																				X
CONV. BAKE	2	X																				X
CONV. BROIL	3	X																				X
THAW	4	X																				X
BAKE	5	X																				X
BROIL	6	X																				X
SELF CLEAN	7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

WIRE COLOR CODE	55
R Red	22
W White	98
BK Black	00
BL Blue	66
BR Brown	11
GY Grey	90

POS.	1	2	4
0 (OFF)			
>0-500 F			X
SELF CLEAN	X	X	

NOTE: THE NUMBERS 10-12-14-16-18-20 INDICATE THE SECTION OF THE WIRES (AWG)

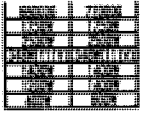
TSW 16CH/112

DOWN OVEN	MANUAL	UP OVEN
L	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X

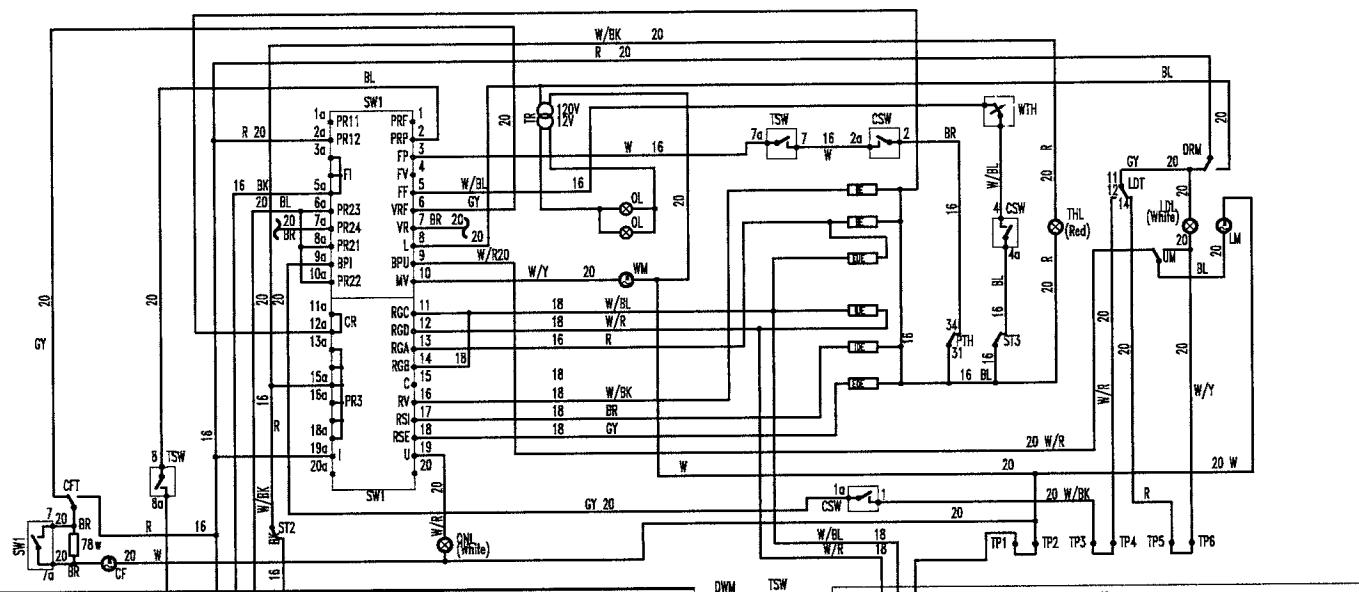
16CH/127

OFF	BAKE	BROIL	SELF CLEAN
0	1	2	3
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X
	X	X	X

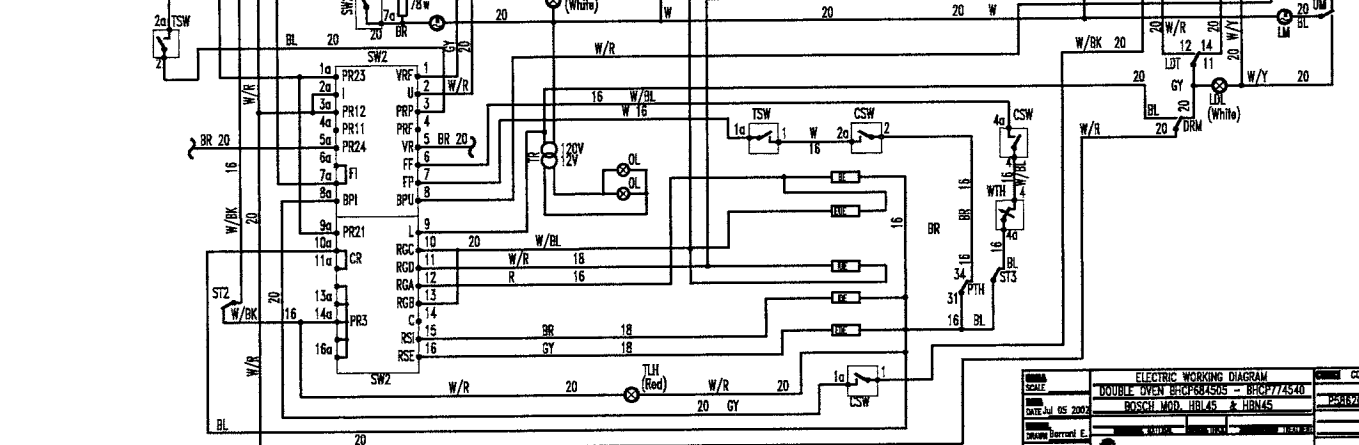
- PR: Programmer
- SW: Switch-commutator
- CSW: Clean switch
- OL: Oven lamp
- WTH: Working thermostat
- CFT: Cooling fan thermostat
- LDT: Locking door thermostat
- PTH: Pyrolytic thermostat
- ST: Safety thermostat
- BE: Braid element
- RE: Ring element
- IUE: Internal up element
- EUE: External up element
- IDE: Internal down element
- EDE: External down element
- CF: Cooling fan
- WM: Working motor
- MTB: Main terminal block
- ONL: On/Off warning light
- LDL: Locking door warning light
- TLH: Thermostat warning light
- STB: Service terminal block
- LM: Locking motor
- DRM: Door microswitch
- DWM: Down microswitch
- UM: Up microswitch
- TP: Test point
- RB: Relay board
- TSW: Timer switch commutator
- TR: Transformer



UPPER OVEN



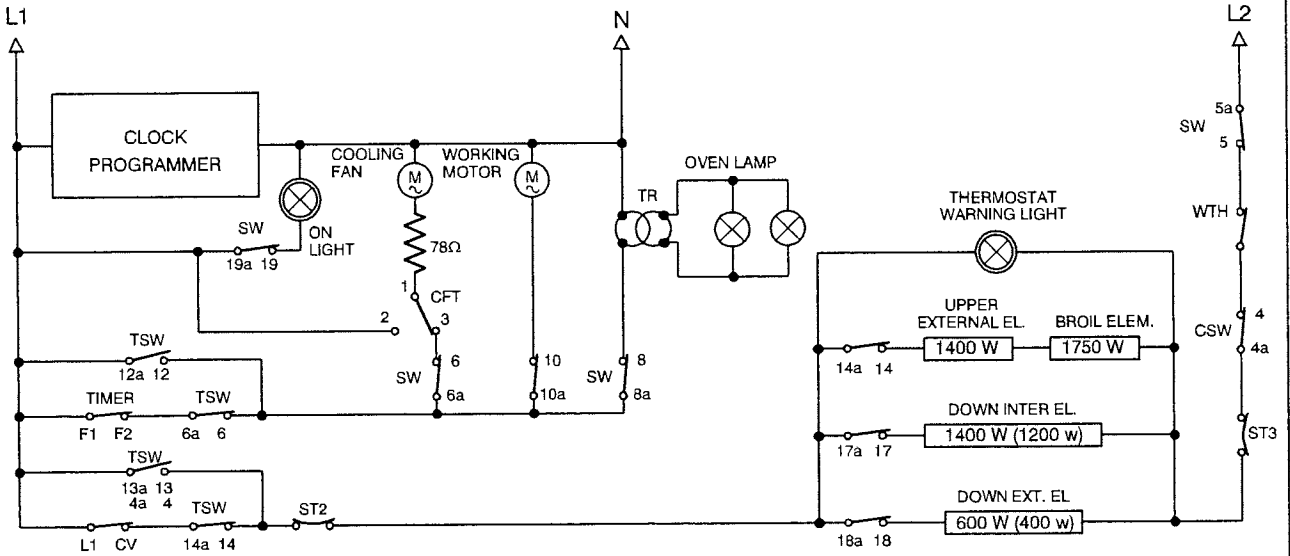
LOWER OVEN



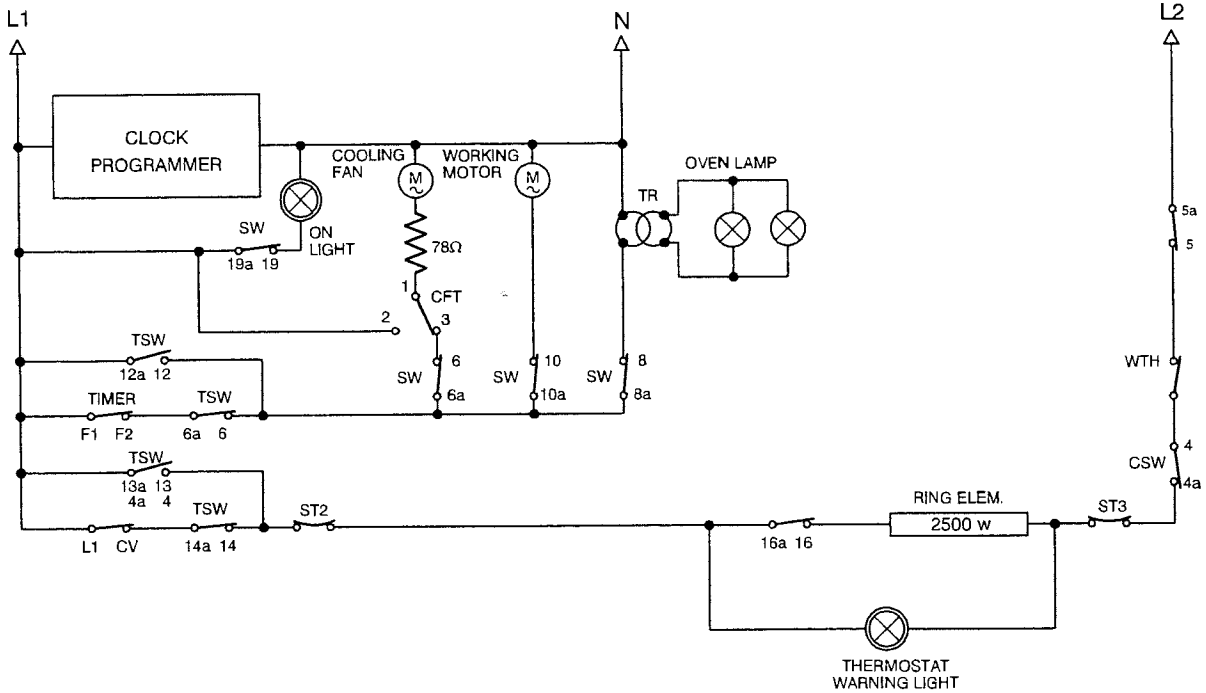
ELECTRIC WORKING DIAGRAM
 DOUBLE OVEN BHCPS8450S - BHCPT74540
 BOSCH MOD. HBL45 & HRL45
 SCALE: 1:1
 DATE: 04.05.2002
 DRAWN: BERNARD E.
 CHECKED: ...
 APPROVED: ...
 PULCON ELECTROKONSTRUKTION

BOSCH PYROLYTIC DOUBLE OVEN MOD. HBL 45_A UC HBN 45_A UC (UPPER OVEN)

CONV. ROAST
(xxx W) 27" DATA

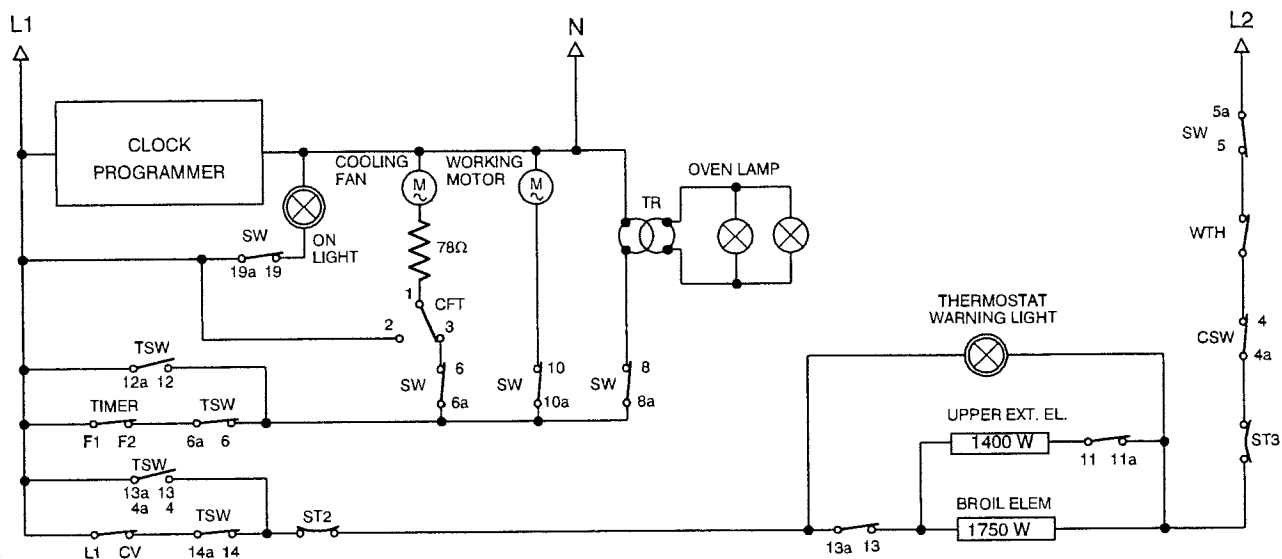


CONV. BAKE

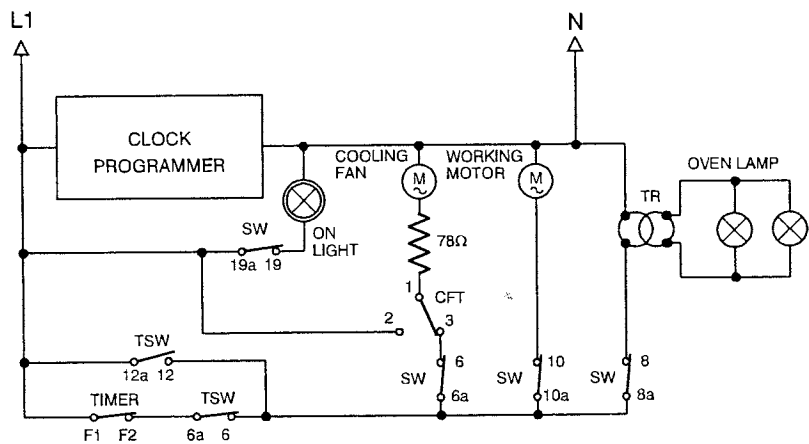


BOSCH PYROLITIC DOUBLE OVEN MOD. HBL 45_A UC HBN 45_A UC (UPPER OVEN)

CONV. BROIL

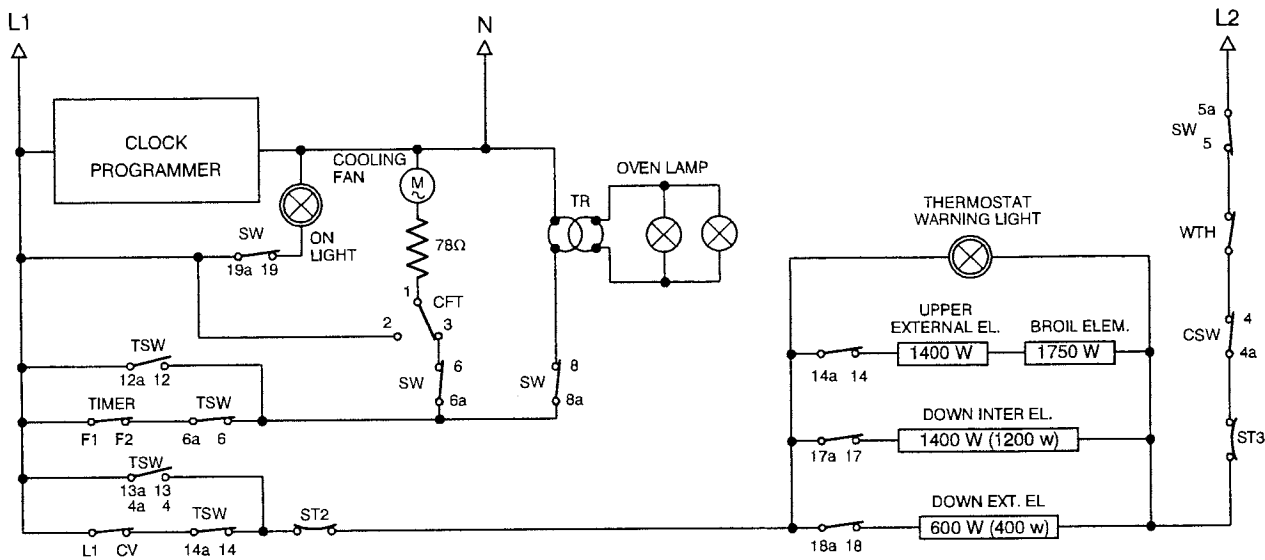


THAW

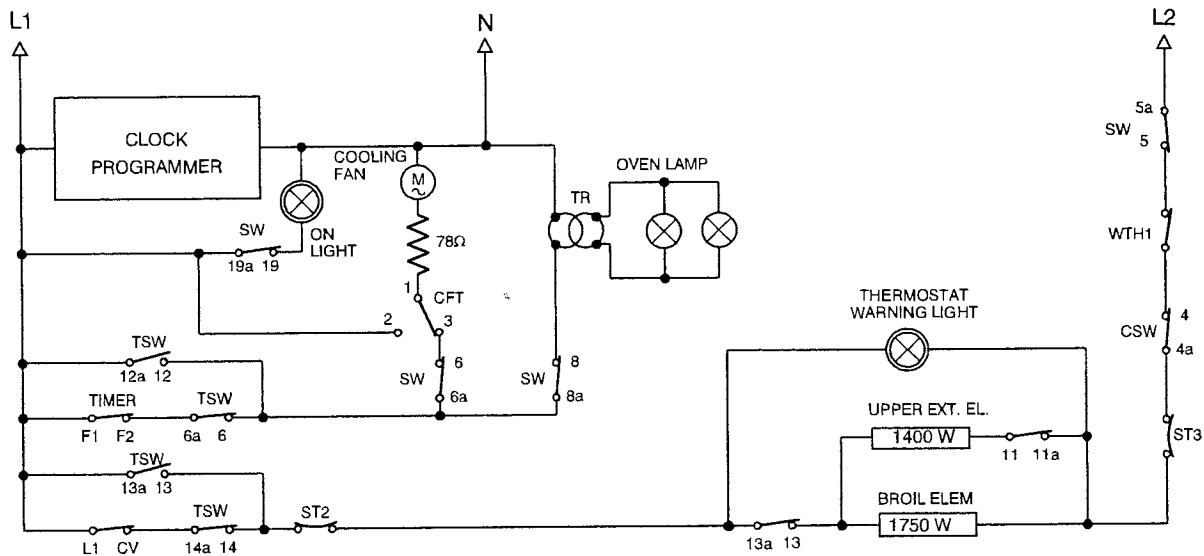


BOSCH PYROLYTIC DOUBLE OVEN MOD. HBL 45_A UC HBN 45_A UC (UPPER OVEN)

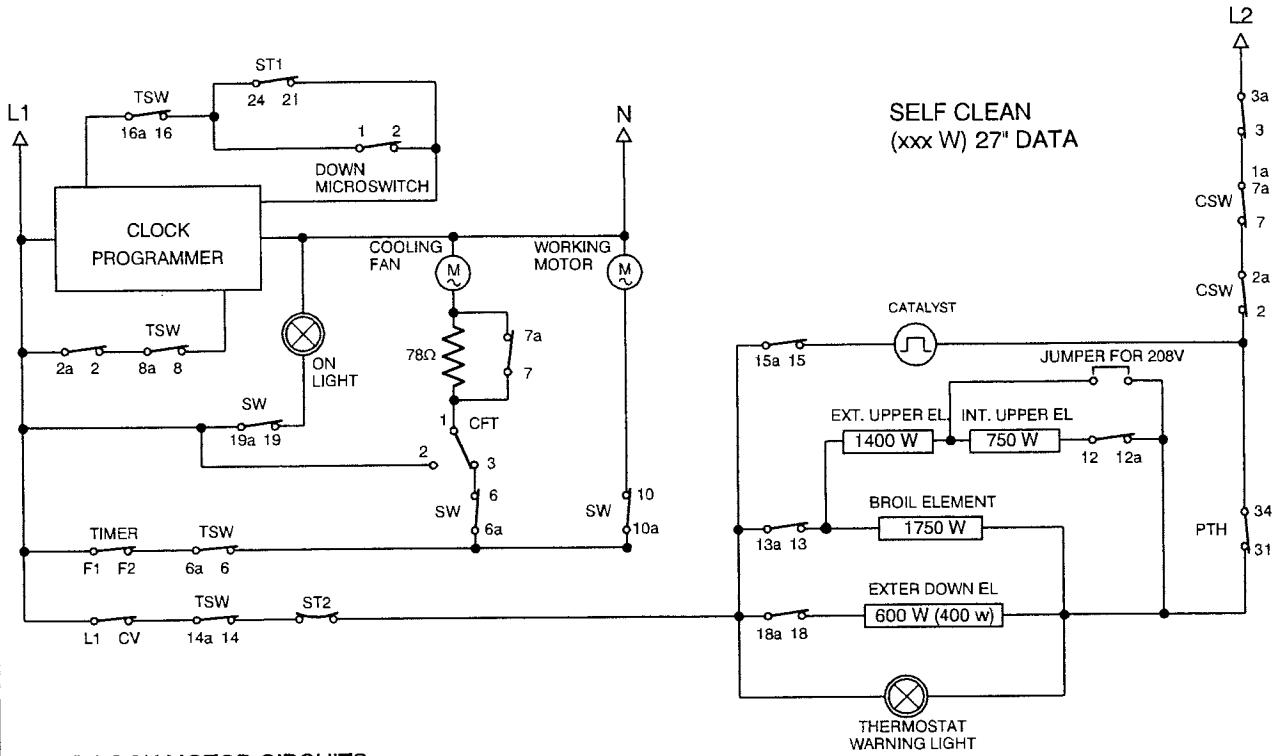
BAKE
(xxx W) 27" DATA



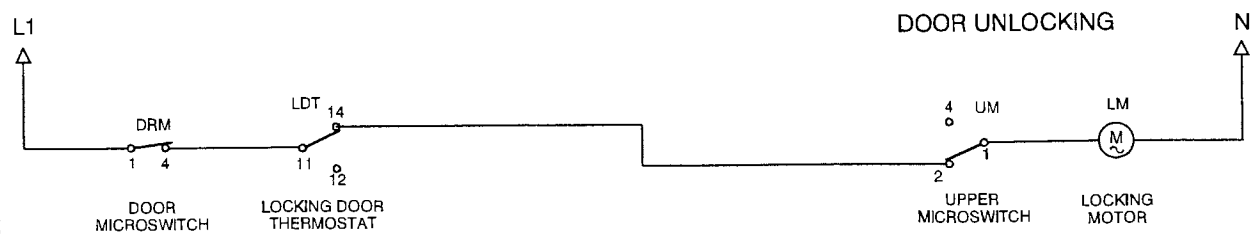
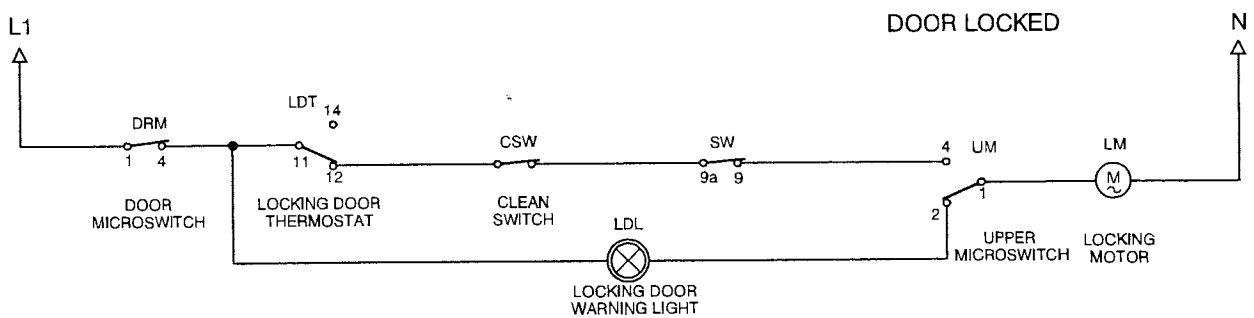
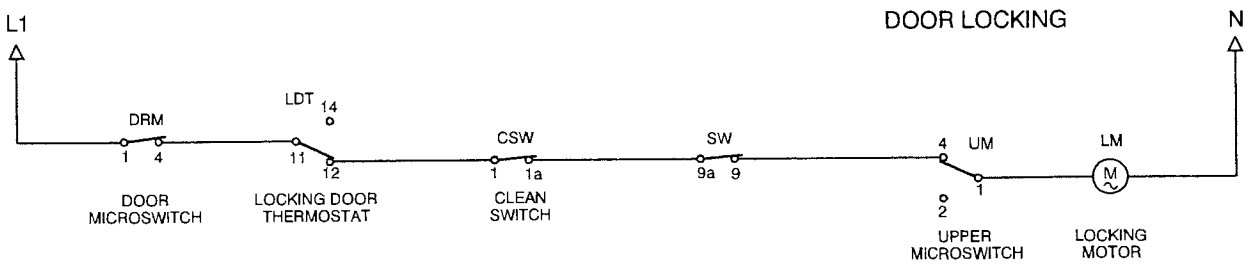
BROIL



BOSCH PYROLYTIC DOUBLE OVEN MOD. HBL 45_A UC HBN 45_A UC (UPPER OVEN)

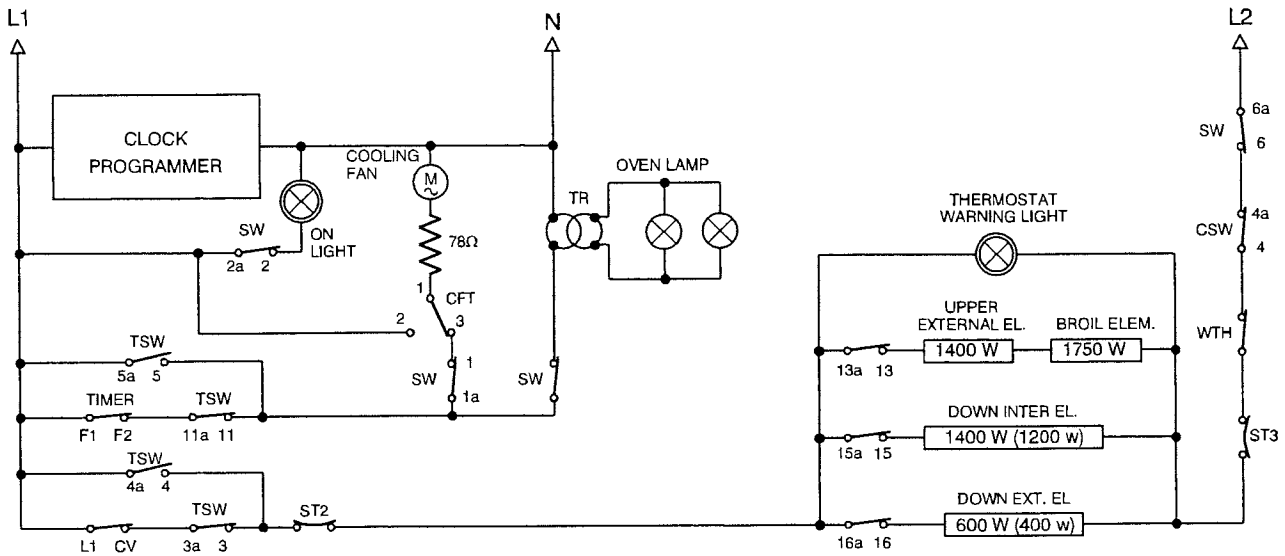


DOOR LOCK MOTOR CIRCUITS

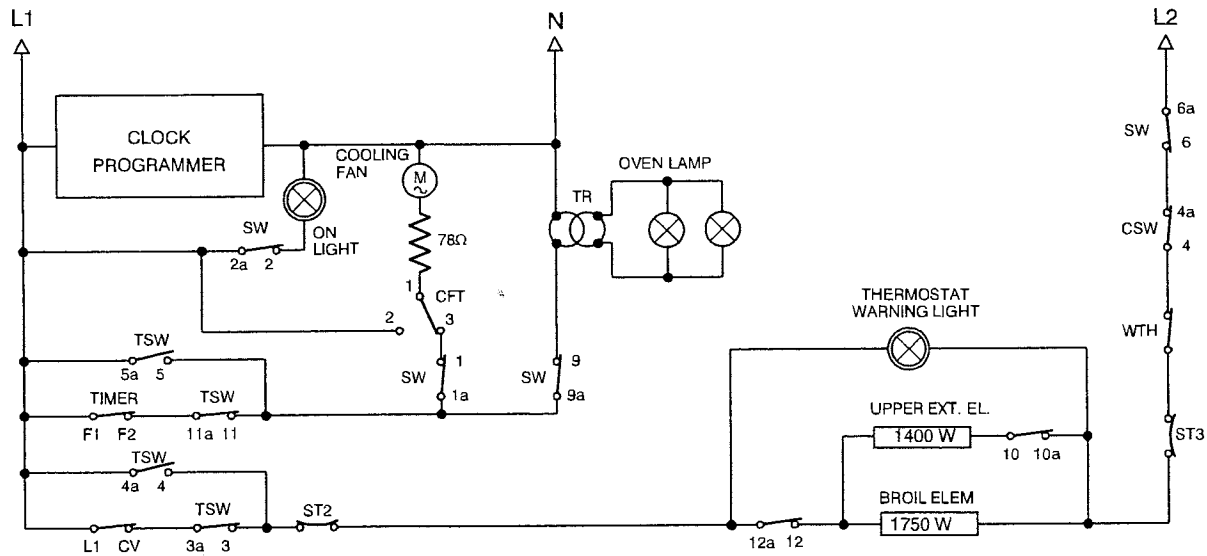


BOSCH PYROLYTIC DOUBLE OVEN MOD. HBL 45_A UC HBN 45_A UC (LOWER OVEN)

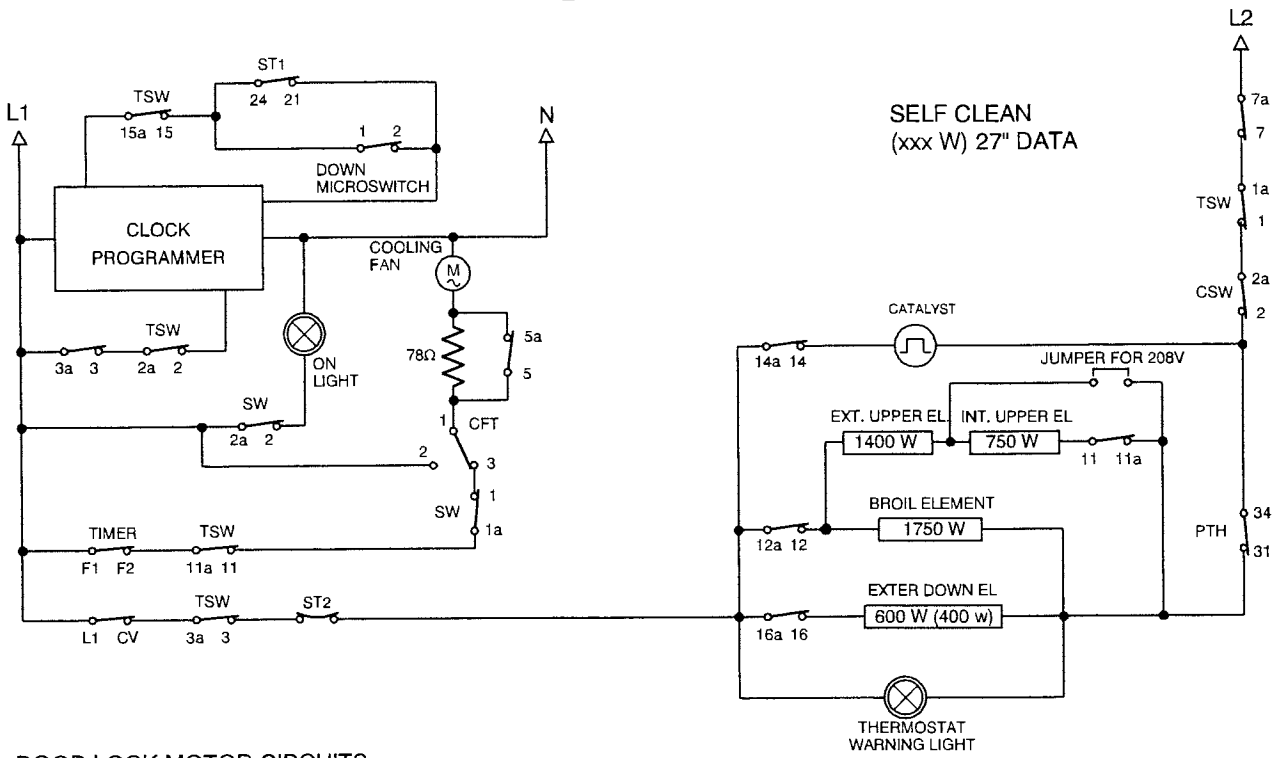
BAKE
(xxx W) 27" DATA



BROIL



BOSCH PYROLYTIC DOUBLE OVEN MOD. HBL 45_A UC HBN 45_A UC (LOWER OVEN)



DOOR LOCK MOTOR CIRCUITS

